

EXHIBIT A

**CONSUMERS ENERGY COMPANY and
THE DETROIT EDISON COMPANY**

Ludington Pumped Storage Plant

**ENGINEERING, PROCUREMENT, & CONSTRUCTION
CONTRACT**

FOR

Units 1 through 6 Turbine Generator Overhaul

With

TOSHIBA INTERNATIONAL CORPORATION

Contractor's Federal ID No: 94-1652435

Contract Dated as of October 15, 2010

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SECTION I
AGREEMENT

AGREEMENT, made as of October 15, 2010, between

CONSUMERS ENERGY COMPANY, a Michigan corporation, One Energy Plaza, Jackson, Michigan 49201 ("Consumers"), and THE DETROIT EDISON COMPANY, a Michigan corporation, One Energy Plaza, Detroit, Michigan 48226 ("Edison"), Consumers and Edison being hereinafter collectively called the "Owner",

and

TOSHIBA INTERNATIONAL CORPORATION, a California corporation, with an office at 13131 West Little York Road, Houston, Texas 77041, hereinafter called the "Contractor."

In consideration of the mutual understandings and agreements contained in this Contract, the Owner and the Contractor agree as follows:

1. SCOPE OF CONTRACT

The Contractor agrees to perform and complete, in a good, substantial, workmanlike and approved manner within the time hereinafter specified and in accordance with terms, conditions and provisions of this Contract, all of the work described in SECTION III - DESCRIPTION OF WORK, which is attached to and made a part of this Contract, and otherwise in the Contract Documents (as hereinafter defined). Unless and except as may be expressly provided otherwise in the Contract Documents, the Contractor shall furnish everything necessary to perform and complete such work, including but not limited to all engineering, structural design, fabrication, manufacturing, assembly, shop testing, delivery, installation, construction and field testing, and all supervision, labor, tools, equipment, facilities, materials and supplies (whether temporary or permanent, and whether or not to be incorporated into the finished structures, buildings, fixtures, facilities and/or other improvements that are to be erected, constructed and/or installed in the performance of the work), consumables, mobilization, demobilization, services and transportation required for or associated with any of the foregoing, that may be necessary for or to carry out such work, whether or not expressly stated or provided for in said attached Contract Documents (all of the foregoing, collectively, the "Work").

The Contractor shall assure all engineering and design services required to be performed by a professional engineering firm licensed in the State of Michigan will be so performed.

2. TIME FOR PERFORMANCE

The Contractor shall commence the Work on or about January 31, 2011, and shall prosecute same in accordance with the scheduling provision of this Contract and complete the entire Work (i.e., Final Completion as hereinafter defined) on or before June 1, 2020. The Work will be performed in accordance with the Contract Schedule as hereinafter defined.

3. CHANGES IN THE WORK AND EXTRA WORK

The Owner may, without invalidating this Contract, make changes to the Work by altering, adding to, or reducing the extent of the Work, including deletion of any major items of work to be constructed under the terms of this Contract, or by making changes to the Contract Schedule (as hereinafter defined). Except as expressly otherwise provided in the immediately following paragraph of this Article 3, no changes in the extent, or scope of, or Contract Schedule shall be made except by a Change Order signed by one of the Owner's authorized officers.

Whenever possible, such a Change Order shall be executed prior to the commencement of the extra work or changed Work. When a need arises to immediately authorize extra work or changes in the Work to restore service, to avoid breakdowns, to avoid work stoppages or for the Owner to meet its commitments, the Owner's Project Manager may authorize the performance of such extra work or changes by execution of a Project Change Notice ("PCN") in the form attached hereto as Exhibit A. Any work authorized pursuant to such a PCN shall thereafter be evidenced by a Contract Change Order as indicated above. Unless otherwise mutually agreed, such a Contract Change Order will be issued no less frequently than the earlier of (i) such time as PCN's have accumulated to a net value of one million dollars (\$1,000,000), or (ii) three (3) months after issuance of the applicable PCN.

No claim of any nature will be considered by the Owner for adjustment to this Contract unless such claim has been received by the Owner from the Contractor within fifteen (15) days after the Contractor has become aware of the reasons giving rise to the claim.

In addition, no additional equipment or facilities shall be installed as part of the Work unless shown on Owner-approved revisions of construction plans, drawings or specifications.

4. PRICE

The Contractor shall perform the Work in accordance with the terms of this Contract at the price or prices set forth in SECTION IV - CONTRACT PRICE, which is attached to and made a part of this Contract. Unless and except as may be expressly provided otherwise in said SECTION IV - CONTRACT PRICE, it is understood that any quantities listed are estimated, and any difference between estimated and actual quantities furnished, installed or erected will not affect the prices to be paid therefor. References in this Contract to "Contract Price" shall mean the price(s) and/or applicable portions thereof set forth in said SECTION IV - CONTRACT PRICE.

5. INVOICING AND PAYMENTS

- (a) At the end of each calendar month, the Contractor shall prepare and submit to the Owner a progress report and an invoice showing the percent of the Work completed to the satisfaction of and accepted by the Owner during such calendar month and the associated amount payable therefor in accordance with SECTION IV - CONTRACT PRICE of this Contract as more specifically determined per the Work Breakdown Structure ("WBS")/Schedule of Values developed pursuant to PART ONE, Section 9.0, of the Conformed Contract Specification. Notwithstanding the above, with respect ONLY to "Direct Cost", as defined in SECTION IV - CONTRACT PRICE, that the Contractor is authorized by said SECTION IV - CONTRACT PRICE to invoice to the Owner with respect to unionized craft labor at the Jobsite (as hereinafter defined) during a Unit outage, the Contractor may invoice the Owner semi-monthly, at the 15th day and end of the applicable calendar month.

The Contractor represents that it is a U.S. payee and agrees to provide the Owner with a properly executed and current Form W-9 prior to the payment of any amounts due under this Contract.

Before the Contractor will be entitled to payment of any such monthly (or semi-monthly where expressly provided for above) invoice, the Contractor shall satisfy the Owner that all amounts owing for labor, material, equipment, services, licenses, and other expenses for which a claim might be brought against the Owner or for which a lien against any property of the Owner might be filed, have been fully paid and satisfied. The Contractor shall execute and deliver to the Owner a Partial Unconditional Waiver (which shall be subject only to and effective immediately upon the Owner's payment to the Contractor of the properly invoiced and due and owing amount) and a Sworn Statement in the form, respectively, of Exhibits B and C to this Contract, and by such submission the

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Contractor shall be deemed (subject only to and effective upon the Owner's payment to the Contractor of the properly invoiced and due and owing amount) to release any claims, actions and liens against the Owner and to agree to indemnify, defend and hold harmless the Owner from future claims, actions, and liens for Work performed and invoiced through the closing date of the period covered by the invoice. Notwithstanding any of the foregoing, the Owner's payment of any such invoice of the Contractor shall not constitute a waiver of any rights or remedies whatsoever if, in fact, any amounts owing for any of the foregoing were not in fact paid and satisfied, regardless of whether that fact was known or was not known to the Owner at the time the Owner paid the Contractor's invoice. Further the Contractor shall assure the Owner that no liens shall be filed against the Owner and shall provide a bond should a lien be filed relating to any labor, material, equipment, services, licenses, or any other expenses related to this Contract.

- (b) Within thirty (30) days of the date of Unit Final Acceptance (as hereinafter defined) of the applicable Unit (as hereinafter defined), the Contractor shall submit to the Owner a final invoice covering all of the Contractor's remaining claims against the Owner pursuant to this Contract in relation to the Work associated with the applicable Unit or in any way arising out of its performance in respect to the applicable Unit. No claim other than a claim which is included in this final invoice may thereafter be made by the Contractor against the Owner pursuant to this Contract or in any way arising out of its performance in respect to the applicable Unit and the Contractor acknowledges that the Owner may plead this clause as a bar to any such claim or proceeding of any kind to enforce any such claim, whether in contract, in tort, pursuant to statute, or otherwise.

Before the Contractor will be entitled to payment of such final invoice, the Contractor shall satisfy the Owner that all amounts owing for labor, material, equipment, services, licenses, and other expenses for which a claim might be brought against the Owner or for which a lien against any property of the Owner might be filed, have been fully paid and satisfied. The Contractor shall execute and deliver to the Owner a Full Unconditional Waiver and Final Release (which shall be subject only to and effective immediately upon the Owner's payment to the Contractor of the properly invoiced and due and owing amount), in the form, respectively, of Exhibits D and E to this Contract, and a Sworn Statement in the form of Exhibit C to this Contract, and by such submission the Contractor shall be deemed (subject only to and effective upon the Owner's payment to the Contractor of the properly invoiced and due and owing amount) to release any claims, actions and liens against the Owner and to agree to indemnify, defend and hold harmless the Owner from future claims, actions, and liens. Notwithstanding any of the foregoing, the Owner's payment of such final invoice of the Contractor shall not constitute a waiver of any rights or remedies whatsoever if, in fact, any amounts owing for any of the foregoing were not in fact paid and satisfied, regardless of whether that fact was known or was not known to the Owner at the time the Owner paid the Contractor's invoice.

- (c) Each invoice, whether a monthly invoice (or semi-monthly where expressly provided for above) under Subarticle 5(a) or the final invoice under Subarticle 5(b), shall include a summarization of previous invoices and payments, if any, and be accompanied by any and all supporting data mentioned below in this Subarticle 5(c) or elsewhere in the Contract, and shall be transmitted to: Accounts Payable Department, Consumers Energy Company, Ludington Pumped Storage Plant, 3525 South Lakeshore Drive, Ludington, MI 49431 (or such other location as the Owner may hereafter specify by written notice to the Contractor). A duplicate copy of each invoice (without supporting data) shall accompany the original invoice transmitted to the above-specified address unless the Owner's Project Manager designates that said duplicate be sent elsewhere, in which case, it shall be sent to the location or person so designated. Contractor's invoicing shall be in the form as shown in Exhibit F.

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With each invoice where the Contractor's compensation is based on cost or time worked, the Contractor shall submit Suppliers' or Subcontractors' actual invoices for all materials or other items for which reimbursement is claimed (it being understood that credit shall be given to the Owner for any discounts received by the Contractor on any such materials or other items) and certified copies of time sheets and/or payrolls.

- (d) Subject to all other conditions and prerequisites set forth herein:
- (i) the Owner will make payment to the Contractor of ninety percent (90%) of the amount of each correct and proper monthly invoice submitted by the Contractor under Subarticle 5(a) above within thirty (30) days after the Owner's receipt and approval of such monthly (or semi-monthly where expressly provided for above) invoice; it being understood that payment by the Owner of the ten percent (10%) retainage will be subject to the occurrence of Unit Final Acceptance under this Contract and will be made by the Owner at the same time as the Owner pays the Contractor's final invoice pursuant to the immediately following clause "(ii)"; and
 - (ii) the Owner will make payment of the Contractor's final invoice submitted by the Contractor under Subarticle 5(b) above within thirty (30) days after the Owner's receipt and approval of such final invoice.

All payments by the Owner to the Contractor under this Contract will be made pursuant to the Vendor Payment, Financial EDI Transactions Attachment, CSS Form 0651A, attached to and made a part of this Contract as Exhibit G.

Payment of any invoice (whether partial or final) by the Owner shall in no way relieve the Contractor of any obligations or liabilities that have arisen or may thereafter arise under or in connection with this Contract or the Work, whether such obligations or liabilities are then known or unknown, accrued or not yet accrued, or deprive the Owner of any right or remedy therefor.

- (e) Notwithstanding the foregoing, the Contractor shall not be required to make a payment to a Subcontractor or Supplier when and to the extent (and only when and to the extent) a good faith dispute exists between the Contractor and the applicable Subcontractor or Supplier as to the Subcontractor's or Supplier's entitlement to such payment; provided, that the Contractor has fully satisfied and continues at all times to fully satisfy its obligations pursuant to Subarticle GC17(b).
- (f) Notwithstanding any other provision in this Contract to the contrary, the Owner may, in addition to any retainage to be withheld, withhold any or all payment or payments for Work (regardless of the Unit to which the Work relates) done to the extent of protecting itself against loss on account of:
- (i) Defective Work not remedied (regardless of the Unit to which the Work relates).
 - (ii) Claims filed or reasonable evidence indicating probable filing of claims by Subcontractors, by Suppliers, or by others in regard to any matter for which the Contractor is responsible or liable under this Contract.
 - (iii) Failure of the Contractor to make payments promptly to Subcontractors or Suppliers or otherwise for material or labor.
 - (iv) Damages to structures or properties.

When the above grounds are removed, payment shall be made of any amounts withheld because of them.

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- (g) If the "Certificate of the Contractor" that is part of Exhibit F hereto conflicts with any term in this Article 5, the terms in this Article 5 shall govern, but only to the extent of any conflict.

6. GOVERNING LAW AND ORDER OF PRECEDENCE

This Contract shall be deemed to be a Michigan contract and shall be construed in accordance with and governed by the laws of the State of Michigan.

All of the Contract Documents shall be considered complementary and what is required by one shall be binding as if required by all. The failure to specifically list a requirement in one Contract Document, once the requirement is specifically listed in another, shall not imply the inapplicability of such requirement. In the event of a conflict between or among any of the Contract Documents, the provisions that impose the most stringent requirements upon the Contractor will take precedence, except as may be otherwise determined by the Owner.

7. HEADINGS

The descriptive headings of the various Sections, Articles or other divisions of this Contract are included for convenience of reference only. They shall not modify or restrict the interpretation and construction of any of the terms or provisions hereof.

8. THIRD PARTIES

This Contract is intended for the benefit of the parties hereto and does not grant any rights to any third parties unless otherwise specifically stated herein.

9. ENTIRE AGREEMENT

With respect to the subject matter hereof, this Contract supersedes all previous representations, understandings and negotiations, either written or oral, between the parties hereto or their representatives, and constitutes the entire Contract between the parties. The terms and conditions of this Contract shall not be changed, superseded or supplemented, except in writing, signed by authorized representatives of the parties hereto.

It is understood that although this Contract is dated, and effective, as of October 15, 2010, its actual date of execution is January 31, 2011 ("Contract Award"). The services covered by this Contract have actually been in progress since October 15, 2010, covered by a contract dated October 15, 2010 between Consumers and the Contractor. It is expressly intended that, with respect to all such services performed from and after October 15, 2010, this Contract shall be deemed to supersede and replace said contract dated October 15, 2010, and that such services from and after October 15, 2010 will instead be deemed performed under this Contract. Without limiting the foregoing, all amounts heretofore paid by the Owner to the Consultant under said now-superseded contract for services between October 15, 2010 and the date of Contract Award (which amount, based on current information, is \$5,180,000) will be deemed as if paid under this Contract. The Not-to-Exceed Total Contract Price and the Not-to-Exceed Unit Total Price for the first sequenced Unit, each as stated in SECTION IV – CONTRACT PRICE, are understood to include said already paid amounts.

10. CONFIDENTIALITY

- (a) All information, whether oral, written or otherwise, which the Owner provides to the Contractor or which is generated or derived by the Contractor in the performance of or as a result of the Work hereunder and which the Owner designates, in writing or orally, as confidential to the Owner ("Owner Claimed Confidential Information"), shall be held in strict confidence by the Contractor and shall not be disclosed by the Contractor to any

SECTION II
GENERAL CONDITIONS

GC1 DEFINITIONS

- (a) Definitions. In addition to any terms that are defined elsewhere in the Contract Documents, the following capitalized terms, when used in the Contract Documents, shall have the following set-forth meanings. It is understood that such following definitions of the following listed capitalized terms, as well as definitions of other capitalized terms that are set forth elsewhere in the Contract Documents, shall wherever relevant extend to both singular and plural usages of such terms and to use of other grammatical forms of such terms.
- (i) "Business Days" means every day other than a Saturday, Sunday or a day on which banking institutions are required or permitted to be closed in the State of Michigan. Any reference in this Contract to "days" that does not specifically mention "Business Days" shall be understood to mean calendar days.
- (ii) "Conformed Contract Specification" means the Conformed Contract Specification identified in SECTION III - DESCRIPTION OF WORK, as same may be modified from time to time in accordance with the terms of this Contract.
- (iii) "Contract Schedule" shall mean the Work durations and dates within and by which the Contractor is to carry out and complete the Work as specified in SECTION III - DESCRIPTION OF WORK, together with any more detailed schedule requirements pursuant to Subarticle GC18(a) below.
- (iv) "Contractor Interim Turnover" shall have the meaning set forth in PART TWO, Section 5.2, of the Conformed Contract Specification.
- (v) "Drawings and Specifications" (or, in some places depending on context, "Drawings or Specifications") shall mean, collectively, all the drawings, sketches, specifications, plans lists and standards identified in this Contract and/or prepared/modified/updated as part of the Work, which Drawings and Specifications are intended to more fully define the Work. Drawings and Specifications include without limitation the Conformed Contract Specification.
- (vi) "Extended Commercial Operation Test" for the applicable Unit shall have the meaning set forth in PART TWO, Section 5.7, of the Conformed Contract Specification.
- (vii) "Final Completion" means that Unit Final Acceptance has occurred for all six (6) Units.
- (viii) "Generally Accepted Industry Standards" shall mean, in reference to a situation where no other specific standard is expressly provided for in this Contract, generally accepted industry codes and standards. If more than one Generally Accepted Industry Standard applies to an item or aspect of the Work, the Contractor shall comply with the most stringent.
- (ix) "Jobsite" shall mean the location(s) of the Work, within the Owner's Ludington Pumped Storage Plant site, as is defined in the Contract Documents.
- (x) "Laws/Regulations" shall mean all applicable laws, ordinances, codes, rules, regulations and orders made by any governmental authority or public regulatory body, federal, state or local.

- (xi) "Limited Commercial Operation Test" for the applicable Unit shall have the meaning set forth in PART TWO, Section 5.6, of the Conformed Contract Specification.
 - (xii) "Other Contractor" means any other contractors of the Owner or their subcontractors at any tier who may at any time be performing work at the Owner's Ludington Pumped Storage Plant site or in connection with Ludington Pumped Storage Plant work or operations.
 - (xiii) "Punch List" shall mean a list of incomplete or defective items not endangering health, safety, reliability, or full operability and functionality, such list to be prepared by the Owner after performing inspection of the performed Work and review of documentation submitted by the Contractor.
 - (xiv) "Subcontractor" means the Contractor's subcontractors and vendors of any tier who perform any Work included under this Contract, including but not limited to manufacture or fabrication of materials and equipment or performance of engineering services provided specifically for the Work, regardless of whether any of the foregoing are performed at the Jobsite or elsewhere. "Subcontractor" specifically includes without limitation any subcontractor or vendor that performs any operation at or makes any delivery to the Jobsite. "Subcontractor", however, does not include a "Supplier".
 - (xv) "Supplier" shall mean any vendor (or sub-vendor of any tier) who furnishes, for or related to the Work, stock materials or supplies not made specifically for the Work.
 - (xvi) "Unit" means all of the equipment, structures, improvements and facilities constituting or needed for the operation of each of the six (6) existing pumping and generating units at the Owner's Ludington Pumped Storage Plant (including if and to the extent applicable and relevant to the Work, e.g., common facilities or areas), located near Ludington, Michigan, being more fully described in the Contract Documents.
 - (xvii) "Unit Final Acceptance" shall have the meaning set forth in PART TWO, Section 5.8, of the Conformed Contract Specification.
 - (xviii) "Unit Interim Acceptance" shall have the meaning set forth in PART TWO, Section 5.5, of the Conformed Contract Specification.
 - (xiv) "Work Breakdown Structure" ("WBS") shall have the meaning set forth in PART ONE, Section 9.0, of the Conformed Contract Specification.
- (b) "Herein"; "Hereof", Etc. Unless the context specifically indicates otherwise, the words "herein," "hereof" and "hereunder" are intended to refer to this Contract as a whole and not to be limited to any particular article, section or other division of this Contract.
 - (c) "Include", "Includes", Etc. The words "include," "includes" and "including" shall be deemed to be followed by "without limitation" whether or not they are in fact followed by such words or by other words of like import.
 - (d) Monetary Amounts. References to "\$" or to "Dollars" shall mean the lawful currency of the United States of America. It is understood that all charges to the Owner are in Dollars.

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GC2 NOTICES; OWNER'S PROJECT MANAGER

- (a) Any written notices required or permitted to be given under this Contract shall be deemed to have been duly given: (i) one business day after deposit with a nationally recognized overnight courier service marked for overnight delivery and with all fees prepaid, or (ii) two Business Days after deposit in the United States mail if sent registered or certified mail, return receipt requested, with all postage and other charges prepaid, or (iii) upon receipt of a telefax (or, if that is not on a Business Day, then on the immediately following Business Day), or (iv) upon the day of actual receipt (or refusal to accept actual delivery) if given or sent by any other means; and in any of such cases addressed and sent as follows:

if to the Contractor:

Toshiba International Corporation
8169 Southpark Circle
Littleton, Colorado, 80120
Attention: Ludington Pumped Storage Plant Project Manager
Telefax: (866)398-7422

with a written copy to:

Toshiba International Corporation
101 Montgomery, 23rd Floor
San Francisco, CA 94104
Attention: General Manager
Telefax: (415) 403-5622

and

if to the Owner:

Consumers Energy Company
Ludington Pumped Storage Plant
3525 South Lakeshore Drive, Ludington, MI 49431
Attention: Ludington Project Manager
Telefax: (231) 845-7045

and:

The Detroit Edison Company,
One Energy Plaza, Suite 531 GO
Detroit, MI 48226
Attention: Ludington Project Manager
Telefax: (313) 235-3273

Either party may change its above-set forth address or telefax number for receipt of notices, or the above-set person to whose attention notices to it are to be addressed, by a written notice to the other party given in accordance with this Subarticle GC2(a).

In addition to the above, a notice to the Contractor shall be deemed to have been duly given if and when hand delivered to the Contractor's Site Manager, or in his/her absence to his/her designee (as hereinafter defined in Article GC3).

- (b) References in this Contract to the Owner's "Project Manager" will mean Consumers' Ludington Pumped Storage Plant Units 1 through 6 Turbine/Generator Overhaul Project

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Manager, or such other representative of Consumers as Consumers may hereafter specify by written notice to the Contactor.

The Owner's Project Manager shall be the Owner's expressly appointed representative in the field. He will be available during the progress of the work for inspection of construction to determine compliance with this Contract. He shall have authority to approve or reject work for the same purpose, but he shall not have authority to exercise control over the method or manner of execution of the Work by the Contractor.

It is agreed that, whenever authority is conferred in this Contract upon the Owner's Project Manager, such authority shall not be delegated to, or exercised by, anyone except the individual who is the Owner's Project Manager, and without limiting the generality hereof, no changes or extra work may be authorized in writing or otherwise except by the Owner's Project Manager, and/or by one of the Owner's authorized officers as herein before provided.

The Contractor shall be notified by letter as to the identity of the individual who is to represent the Owner in the capacity of the Owner's Project Manager.

In the event of change within the Owner's organization whereby the identity or title of the individual representing the Owner in this contract as its Project Manager is changed, the Owner shall notify the Contractor of such change by letter.

- (c) It is understood that although "Owner" includes both Consumers and Edison as provided elsewhere in this Contract, Consumers shall be the sole point of contact for administration of the Contract on behalf of the Owner.

GC3 CONTRACTOR'S SITE MANAGER AND KEY PERSONNEL

- (a) The Contractor shall provide full-time, Jobsite management and day-to-day supervision of its craft personnel and its Subcontractors. Before proceeding with the Work, the Contractor shall nominate, subject to the Owner's approval (not to be unreasonably withheld) a project manager ("Site Manager"), who shall be Contractor's representative at the Jobsite. The Owner may conclusively rely on any decisions made by the Contractor's Site Manager and communicated to the Owner. The Contractor's Site Manager shall maintain an office on the Jobsite, and shall at all times keep in said office all documentation pertaining to the Work, including but not limited to a copy of this Contract and all Drawings and Specifications, addenda, Change Orders, product data, and samples generated during the Work, and including any revisions or supplements to any of the foregoing.
- (b) The Contractor shall also notify the Owner in writing of the Contractor's other key personnel for the Work ("Other Key Personnel"), including their names and experience qualifications. The Owner may, for reasonable cause, object to the employment of any such Other Key Personnel or their replacements and the Contractor shall not employ any such Other Key Personnel in connection with the Work to whom the Owner has objected.
- (c) Neither the Contractor's Site Manager nor the Contractor's Other Key Personnel may be removed from the Work without prior notice to the Owner. The Contractor's proposed replacement and the Contractor's proposed schedule for transitioning to such replacement shall be reasonably acceptable to the Owner.
- (d) The Contractor shall advise the Owner at least one (1) Business Day in advance of any planned absences of its Site Manager, along with the name of the person authorized to act as his or her designee during the absence. During such absence, such designee may be treated by the Owner as having all authority of the Site Manager set forth herein.

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- (e) The Contractor's Site Manager or his/her designee shall be present during all periods, including overtime and 2nd and 3rd shifts, when Work is in progress.
- (f) Matters relating to this Contract or the Work which are within the knowledge, or which ought reasonably to be within the knowledge of the Contractor's Site Manager shall be deemed to be within the knowledge of the Contractor.

GC4 SUBCONTRACTING

- (a) Except for the specific pre-approved Subcontractors, if any, that are expressly identified in SECTION III - DESCRIPTION OF WORK, no part of the Work shall be subcontracted by the Contractor without the Owner's prior written consent; and the Owner may refuse to permit the performance of Work by any unauthorized Subcontractor. The Owner will review and respond to requests by the Contractor for Subcontractor approvals within a reasonable time.

With respect to both the pre-approved Subcontractors, if any, identified in SECTION III - DESCRIPTION OF WORK, and with respect to any and all other Subcontractors that may be approved by the Owner, it is expressly understood that: (i) each subcontract shall be in writing; (ii) each subcontract shall be fully executed prior to the commencement of the Work involved; (iii) each subcontract shall specify that the provisions of the subcontract shall be subject to, and the Subcontractor shall comply in every respect with, all applicable provisions of this Contract; and (iv) if required by the Owner to do so, the Contractor shall promptly furnish the Owner with copies of each executed subcontract (which copies, if the Work which is the subject thereof is covered by a fixed price under SECTION IV - CONTRACT PRICE of this Contract, may have pricing redacted therefrom).

The Contractor shall at all times be as fully responsible to the Owner for the actions, omissions, operations, Work and/or scope of supply of each of the Contractor's Subcontractors and Suppliers as the Contractor is for the actions, omissions, operations, Work and/or scope of supply of the Contractor itself (it being further expressly understood that such full responsibility of the Contractor for the actions, omissions, operations, Work and/or scope of supply of its Subcontractors and Suppliers shall be comprehensive and shall apply whether or not "Subcontractors" and/or "Suppliers" are in various specific contexts specifically mentioned or referred to elsewhere in this Contract).

Without in any way limiting the generality of the Contractor's responsibilities for Subcontractors and Suppliers and their actions, omissions, operations, Work and/or scope of supply, it is expressly agreed that if a Subcontractor or Supplier defaults in or repudiates a subcontract or supply purchase order, the Contractor must forthwith advise the Owner thereof in writing upon becoming aware of the fact, and the Contractor shall at no additional cost or expense to the Owner take such measures as are necessary to cause the balance of the Work or scope of supply of such Subcontractor or Supplier to be carried out and/or any defects in the Work or supply of such Subcontractor or Supplier to be remedied in a timely manner and in accordance with this Contract.

- (b) The Owner hereby pre-approves the specific subcontracting by the Contractor, if any, that is indicated in SECTION III - DESCRIPTION OF WORK. Other than that the Contractor need not obtain further permission for the specific subcontracting, if any, that is identified in SECTION III - DESCRIPTION OF WORK, all provisions and requirements of Subarticle GC4(a), above, shall apply to such pre-approved subcontracting.

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Any deviations from the specific subcontracting pre-approvals set forth above in this Subarticle GC4(b) shall require the Owner's prior written approval pursuant to Subarticle GC4(a).

GC5 ASSIGNMENT OF CONTRACT

Any assignment or other transfer of this Contract or any part hereof by the Contractor to any individual, partnership, corporation or other entity, without the prior written consent of the Owner shall be void and of no effect. The Owner may assign this Contract or any part thereof without the consent of the Contractor.

GC6 OTHER CONTRACTORS, COOPERATION

The Contractor shall so conduct its Work that there shall be as little interference as possible with other work which may be in progress by the Owner or by Other Contractors. The Contractor shall reasonably cooperate with the Owner with respect to its coordination of the Work under this Contract with work of Other Contractors. In case of disagreement between the Contractor and Other Contractors employed by the Owner, the decision shall be made by the Owner. The disposition of tools, material, machinery, and other supplies and appurtenances during storage and erection shall be subject to the approval of the Owner. Tools, material, machinery and other supplies shall be stored in a neat and orderly fashion.

GC7 CONTRACT TERMINATION

(a) Termination for Convenience.

- (i) The Contractor's performance under this Contract may be terminated by the Owner for the Owner's convenience if and when the Owner shall elect. Any such termination shall be effected by delivery to the Contractor of a notice of termination, stating the date upon which such termination becomes effective. The Contractor shall, on the date specified in the Owner's termination notice, close down and stop the Work, and remove its employees, representatives, tools, equipment and other property from the Owner's premises leaving the Jobsite in good, clean, safe, and orderly condition. Only the Owner may terminate for convenience.
- (ii) Within ninety (90) days after the Owner delivers a notice of termination for convenience to the Contractor pursuant to clause "(i)" above of this Subarticle GC7(a), the Owner shall pay to the Contractor, as full compensation for Work performed up to the time of such termination and as the Contractor's sole and exclusive compensation and remedy for such termination and for any costs of damages arising from such termination, the applicable amount shown on the then-current revision of the termination payment schedule set forth in Exhibit J, attached hereto (said termination payment schedule to be updated and revised as of the end of each calendar year, or more frequently at the request of either party, in accordance with the procedures set forth in said Exhibit J) corresponding to the effective date of the termination as set forth in the Owner's said termination notice, less the amount of all payments previously thereto made by the Owner hereunder. Without limiting the generality of the foregoing, it is expressly understood that said payment by the Owner includes: (1) the Contractor's full and sole compensation for any costs of canceling or terminating subcontracts with Subcontractors and purchase orders with Suppliers that the Owner does not, pursuant to clause "(iii)" below, specify are to be assigned to the Owner; and (2) any and all costs of the Contractor of demobilizing.

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- (iii) Upon any termination of this Contract pursuant to this Subarticle GC7(a), the Contractor shall: (1) execute and deliver (or cause to be executed and delivered) such documents and take such reasonable steps as the Owner may require for the purpose of assigning (or causing to be assigned) to the Owner such subcontracts with Subcontractors and/or such purchase orders with Suppliers as the Owner may elect to assume, if same are assignable (it being understood that the Contractor shall use its best efforts to ensure that all such subcontracts and purchase orders are assignable to the Owner); (2) make available for pickup or other disposition by the Owner or the Owner's designee any equipment, components or materials not actually delivered to the Owner but paid for (or which reasonably can be considered to have been paid for) by the Owner by reason of its payments under this Contract, including pursuant to clause "(ii)" above of this Subarticle GC7(a), and assist the Owner upon request in the protection and disposition of such equipment, components or materials; and (3) execute and deliver (and cause all Subcontractors and Suppliers to execute and deliver) to the Owner all waivers, releases and other documents as required by this Contract to establish that any equipment or materials previously thereto delivered to the Owner hereunder, or any other equipment, components and materials not actually delivered to the Owner but paid for (or which reasonably can be considered to have been paid for) by the Owner by reason of its payments under this Contract (including any payment pursuant to clause "(ii)" above of this Subarticle GC7(a)) are free from any and all claims or liens.

(b) Termination for Default.

- (i) The Owner may terminate the Contractor's performance under this Contract for cause in any one of the following circumstances (any of same, a "Major Default"):
- (1) the Contractor fails to make delivery of equipment or portions thereof or otherwise fails to perform the Work or portions thereof, or fails or is unable to provide adequate assurances of being able to make delivery or equipment and to otherwise perform the Work, within the times specified in the Contract Schedule;
 - (2) the Contractor delivers defective or non-conforming equipment or portions thereof or otherwise performs defective Work;
 - (3) the Contractor fails to comply with, or to provide adequate assurance of the Contractor's ability to comply with, the quality assurance/quality control requirements of this Contract pursuant to Article GC27;
 - (4) the Contractor fails to achieve Unit Interim Acceptance for any Unit by the date specified in the Contract Schedule;
 - (5) the Contractor or the Guarantor (as hereinafter defined):
 - fails to generally pay its debts as they become due, or admits in writing its inability to pay its debts as they become due; or
 - makes an assignment for the benefit of creditors; or
 - institutes or has instituted against it any proceeding seeking: (A) to adjudicate it as bankrupt or insolvent; or (B) liquidation, winding up, reorganization, arrangement, adjustment, protection, relief or composition of it or its debts under any Laws/Regulations to bankruptcy, insolvency, reorganization or relief of debtors; or (C) the entry of an order for relief or the appointment of a receiver, trustee, custodian or other similar official for it or for any substantial part of its property and, in the case of any such proceeding instituted against

- the Contractor or the Guarantor, either such proceeding remains undismissed for a period of thirty (30) days or any of the actions sought in such proceeding occur; or
 - takes any action to authorize any of the actions set forth above in this subparagraph "(5)";
 - (6) the Contractor or the Guarantor makes a material representation which is false or misleading when made;
 - (7) the Contractor violates Laws/Regulations with regard to this Contract, any equipment to be supplied hereunder or the Work;
 - (8) the Contractor assigns or transfers this Contract (or any right or interest herein) in breach of Article GC5;
 - (9) the Contractor at any time fails to provide or maintain insurance as required by Exhibit I; or
 - (10) the Contractor abandons, or in any other substantial manner breaches or fails to perform or comply with, any of its obligations under this Contract.
- (ii) In the event that the Owner intends to terminate this Contract for a Major Default as described in subparagraphs (1), (2), (3), (4) or (10) of clause "(i)" above of this Subarticle GC7(b), the Owner shall first provide the Contractor with written notice of such Major Default. The Contractor will commence implementation of all necessary corrective action to cure such Major Default within ten (10) days of the Owner's said written notice, and shall implement a recovery plan acceptable to the Owner and diligently and continuously pursue actions in accordance with such recovery plan to cure such Major Default within thirty (30) days of the Owner's aforesaid written notice. In the event that the Contractor does not commence implementation of reasonable corrective action, or if the Contractor does not thereafter diligently and continuously pursue corrective actions to cure such Major Default and in fact cure such Major Default, within the time periods specified in the preceding sentence, then the Owner may terminate this Contract by written notice to the Contractor. In the event that the Owner intends to terminate this Contract for a Major Default as described in subparagraphs (5), (6), (7), (8) or (9) of clause "(i)" above of this Subarticle GC7(b), it is expressly understood that no further notice by the Owner to the Contractor shall be required and no cure period allowed (except as the Owner in its sole discretion may allow), and in the event of any such a Major Default, the Owner may terminate this Contract by written notice to the Contractor.
- (iii) If the Owner terminates this Contract as provided in this Subarticle GC7(b), then the Contractor shall, on the date specified in the Owner's termination notice, close down and stop the Work, and remove its employees, representatives, tools, equipment and other property from the Owner's premises leaving the Jobsite in good, clean, safe and orderly condition. Any and all costs of canceling or terminating subcontracts with Subcontractors or purchase orders with Suppliers that the Owner does not specify are to be assigned to it, and any and all costs of demobilizing, shall be borne by the Contractor. The Owner may: (1) procure, upon such terms and in such manner as the Owner reasonably may deem appropriate, equipment, components, materials and other aspects of Work, similar (as determined by the Owner) to those that were to have been provided by the Contractor hereunder, and the Contractor shall be liable to the Owner for any and all reasonable additional costs of such similar equipment, components, materials and other aspects of Work; and/or (2) exercise or take advantage of

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any or all of the same rights and benefits as are provided in clause "(iii)" of Subarticle GC7(a); and/or (3) exercise any other rights or remedies available to the Owner at law or in equity (including collecting damages from the Contractor). In addition, the Contractor agrees to cooperate with the Owner in providing information to the Owner (such as, but not limited to, information regarding the status and locations of fabrication(s) or other operations that may then be in progress) in connection with the Owner's transition to the procurement of equipment, components, materials and other items of Work from replacement contractor(s) or supplier(s).

In the event of termination by the Owner under this Subarticle GC7(b), payment by the Owner to the Contractor for the portion, if any, of the Work that was performed by the Contractor prior to such termination will be computed as the excess (if any) of the following amount(s) over the amount of all payments previously thereto made by the Owner under this Contract:

- a percentage of any firm fixed price(s) set forth in SECTION IV - CONTRACT PRICE equal to the percentage of the overall Work that was so performed by the Contractor prior to such termination, as determined in accordance with the Work Breakdown Structure, and/or
- in the case of any such Work that (per said SECTION IV - CONTRACT PRICE) is compensable on a cost-reimbursable or other rates-and-charges basis then in accordance with the applicable cost-reimbursement or other rates-and-changes provisions of said SECTION IV - CONTRACT PRICE;

the total of the above in no event to exceed the applicable amount shown on the then-current revision of the termination payment schedule set forth in Exhibit J (said termination payment schedule to be updated and revised as of the end of each calendar year, or more frequently at the request of either party, in accordance with the procedures set forth in said Exhibit J) less all payments previously thereto made by the Owner under this Contract; PROVIDED, HOWEVER, that any such payment shall be subject to deductions by the Owner for costs and/or damages as referred to above in this clause "(iii)" or otherwise suffered or incurred by the Owner by reason of the Contractor's Major Default and/or the Owner's resulting termination of this Contract; and PROVIDED, FURTHER, that, no such payment shall be due to the Contractor until the Work (or so much of it as the Owner elects to complete) is finished or all claims and damages of the Owner have otherwise been finally settled or otherwise resolved.

The Owner's right to terminate for Major Default as provided in, and all rights of the Owner associated with such termination as set forth in, clauses "(i)" and "(ii)" above, and in this clause "(iii)", of this Subarticle GC7(b) are exercisable entirely at the Owner's option and do not limit any other obligations or liabilities of the Contractor or any other rights or remedies of the Owner.

- (iv) If, after termination of this Contract by the Owner under this Subarticle GC7(b), it is determined for any reason that the Contractor was not in Major Default under any of the provisions of this Subarticle GC7(b), or that the Major Default was excusable under any other of the provisions of this Contract or otherwise, then: (1) such termination shall be deemed a termination for convenience by the Owner pursuant to Subarticle GC7(a); (2) the rights and obligations of the parties shall be as set forth in Subarticle GC7(a); and (3) the Contractor shall not have any claim against the Owner other than pursuant to the provisions of and as provided in Subarticle GC7(a).

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GC8 SUSPENSION

The Owner may for any reason suspend the performance of the Work at any time and from time to time upon three (3) days' written notice to the Contractor. Thereafter, the Contractor shall resume the performance of the Work as requested in writing to do so by the Owner.

In the event of any such suspension, the Contractor shall be entitled to reimbursement for additional costs reasonably and necessarily incurred by the Contractor in effectuating such suspension, and in resuming the performance of the Work as requested by the Owner after the end of the suspension. Unless otherwise agreed, it is also understood that the Contract Schedule will be deemed extended by an amount of time reasonably needed to recover from the suspension.

If a suspension by the Owner continues for an aggregate of twelve (12) months within any continuous period of eighteen (18) months (each period of suspension being measured from the date of the Owner's written notice of suspension to the Contractor) without either: (i) the Owner having notified the Contractor to resume the Work not later than the end of such aggregate twelve (12) months; or (ii) the parties having otherwise agreed in writing by the end of such aggregate twelve (12) months on a date upon which the Work is to be resumed, then the Contractor may, by written notice to the Owner by the end of said aggregate twelve (12) months, terminate this Contract effective at the end of said aggregate twelve (12) months (it being understood that the terms and conditions governing such termination will be the same as if the Owner had terminated pursuant to Subarticle GC7(a)). Provided, however, that the Contractor, in order to exercise such right to terminate this Contract effective at the end of said aggregate twelve (12) months, must notify the Owner in writing not later than the end of the first eleven (11) months of the aggregate suspension that the Contractor intends to so terminate this Contract if the Owner has not notified the Contractor to resume the Work, or the parties have not otherwise agreed on a date on which the Work will be resumed, by the end of the aggregated twelfth (12th) month.

GC9 DISPUTES

In the event of a dispute between the Contractor and the Owner, the Contractor shall proceed with the Work pending resolution of such dispute, unless otherwise requested by the Owner in writing.

Either party may give the other party written notice of any dispute not resolved in the normal course of business. The Owner and Contractor shall thereupon attempt in good faith to resolve such dispute promptly by negotiations between executives who have the authority to settle the dispute. If the dispute has not been resolved within sixty (60) days after such written notice is given, either party may avail itself of any process or means legally available to it to resolve the dispute.

GC10 OWNER'S RIGHT TO DO WORK

If the Contractor shall neglect to prosecute the Work expeditiously or fail to perform any provision of this Contract, the Owner may, after ten (10) Business Days written notice to the Contractor, without prejudice to any other of the Owner's rights and remedies, make good such deficiencies, and further, the cost thereof shall be backcharged to the Contractor.

GC11 DRAWINGS AND SPECIFICATIONS

- (a) The Work will be performed in accordance with Owner-supplied Drawings and Specifications, and/or with Contractor-supplied Drawings and Specifications, each as and to the extent specified in SECTION III - DESCRIPTION OF WORK. Wherever the Contractor is to supply Drawings and Specifications, the designated Drawings and Specifications necessary for the proper execution of the Work, will be furnished by the Contractor to the Owner in accordance with the Contract Schedule, and in any event in advance of the performance of the Work embraced in and covered by such Drawings and Specifications.

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- (b) The Contractor shall do no work without authorized Drawings and Specifications.
- (c) It is intended that the Drawings and Specifications shall include everything requisite and necessary to finish the entire Work properly, even though every item necessarily involved is not particularly mentioned. The Work is to be complete, undamaged, and to the satisfaction of the Owner, notwithstanding any minor omissions in the Drawings or Specifications.
- (d) The Drawings and Specifications shall be considered as complementing each other. Work called for by one and not shown or mentioned in the other(s) shall be done or furnished in as faithful and thorough a manner as though fully covered by all such documents.
- (e) In any case of discrepancy in the figures on the Drawings or Specifications, the matter shall be immediately submitted to the Owner, without whose decision said discrepancy shall not be adjusted by the Contractor save only at its risk.
- (f) The Contractor shall, at all times during the Work, keep one record copy of all Drawings and Specifications in good order and currently annotated/marked-up in up-to-date manner to show all authorized changes made during the Work. Such up-to-date Drawings and Specifications shall be made available to the Owner for inspection at all times.

In addition to any other requirements stated herein for delivery of Drawings and Specifications to the Owner, upon Unit Final Acceptance for the applicable Unit of the Work, the Contractor shall:

- (i) deliver three (3) sets of all such Drawings and Specifications, as annotated to show the final, as-built condition inclusive of all authorized changes, to the Owner; and
- (ii) maintain in its own offices a copy of all such Drawings and Specifications, as annotated to show the final, as-built condition inclusive of all authorized changes, for a minimum period of six (6) years following Final Completion, and make same available to the Owner upon request.

In case of any early termination of this Contract, the Contractor shall, upon such termination, deliver to the Owner all Drawings and Specifications as revised/updated to reflect all authorized changes through the effective date of such termination.

Ownership of Drawings and Specifications shall be as set forth in Article 11 of SECTION I - AGREEMENT.

GC12 OWNER TO FURNISH PROPERTY

The Owner will furnish and make available to the Contractor all real property which in the opinion of the Owner's Project Manager is necessary for carrying on the Work. The Contractor will not move in on any property without first obtaining permission from the Owner's Project Manager.

GC13 MATERIAL DELIVERY POINTS

The Owner will deliver to the Contractor at the Jobsite the materials and/or equipment, if any, which are required by the terms of this Contract to be furnished by the Owner, where the Contractor shall receive it, unload it, check it, and sign receipt for it.

GC14 ACCESS TO WORK

- (a) The Contractor shall perform all necessary and appropriate inspections and testing during the course of the Work, in accordance with the QA/QC Program (as hereinafter defined).

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- (b) Upon reasonable notice, the Contractor shall give the Owner and any Owner-designated representatives reasonable full access to design, manufacturing, production, or testing at Contractor's facilities and facilities of its Subcontractors during all scheduled working hours, as well as at all times on the Jobsite, for the purpose of observing the Work, including access to all official records of quality or relating to quality, inspection and witnessing of shop tests, and expediting design and equipment or material to be included in the Work.
- (c) The Contractor shall allow the Owner and any Owner-designated representative to witness all tests and inspections, both those which are to take place at any facility of the Contractor or its Subcontractors and those which are to take place at the Jobsite. The Contractor shall provide thirty (30) days' advance written notice to the Owner of each test/inspection date and location, and shall confirm such information with the Owner not less than ten (10) days prior to the test/inspection. In addition, the Contractor shall provide to the Owner the application test/inspection procedures that will be used as such inspection/test at least thirty (30) days prior to the inspection/test, to allow Owner to review and comment. The Contractor shall deliver to the Owner upon request copies of all data resulting from all tests and inspections.
- (d) If any Work has been covered up prior to any observation under Subarticle GC14(b) that has been requested by the Owner, or if the Owner notified the Contractor that the Owner desired to witness any testing or inspection pursuant to Subarticle GC14(c) and prior to the designated time for such testing or inspection and the Owner's arrival to witness same the testing or inspection was performed and the Work covered up, then the Contractor shall, if required by the Owner or by public authorities, uncover same for observation, testing and inspection, and, following the observation, testing or inspection (as well as any correction of deficiencies and appropriate further observation, re-testing or re-inspection as necessary) re-cover the Work, all at the Contractor's expense.
- (e) The Owner shall have no obligation to in any way supervise the Work. Any decision of the Owner at any time either to observe, inspect or witness pursuant to Subarticles GC14(b) and (c), or not to observe, inspect or witness pursuant to Subarticles GC14(b) and (c), or any failure of the Owner in whole or in part to raise any objection during any observation, inspection or witnessing pursuant to Subarticles GC14(b) and (c), shall not constitute the Owner's acceptance of any Work or relieve the Contractor of any of its obligations under this Contract (including without limitation that same shall not constitute a waiver of any right of the Owner to thereafter disapprove/reject such work or any warranty rights or remedies of the Owner). The Contractor shall be solely responsible for all construction or installation means, methods, techniques, sequences, and procedures in the performance of its Work hereunder.

Without limiting the generality of the immediately preceding paragraph, and without otherwise limiting the scope of the Contractor's responsibilities under this Contract or any and all other rights or remedies of the Owner, if the Owner at any time during the performance of the Work becomes aware that any part of the Work does not comply with requirements of this Contract, the Owner may reject it by notification to the Contractor. On being so notified, the Contractor must (despite any previous approval of or payment for the portion of the Work in question by the Owner) re-do or replace the same, at the Contractor's own cost and within such period as Owner directs, so that the Work is in conformity with this Contract. Any requirement to so re-do or replace any Work shall not entitle the Contractor to any extension of the Contract Schedule or any part thereof.

GC15 RESPONSIBILITY OF CONTRACTOR

- (a) Contractor To Be an Independent Contractor. In the performance of the Work hereunder, the Contractor shall be an independent contractor and shall do all work hereunder with and according to its own equipment, means, and methods, which shall belong to and be and remain in the exclusive charge and control of the Contractor, and which shall not be subject to any control or supervision by the Owner, except as to the results of said Work; and it is expressly understood that the Owner does not hereby hire or rent the use of the same, or assume any liability for the use or method of use thereof.
- (b) Examination of Drawings and Specifications and Jobsite. The Owner will, upon the Contractor's written request, provide to the Contractor such information regarding the Jobsite as is specified by the Contractor and available to the Owner. The Contractor shall be held to have, prior to execution of this Contract, examined all Drawings and Specifications provided by the Owner, as well as to have examined the Jobsite itself and all relevant surrounding areas, and to have familiarized itself therewith including identifying all reasonably ascertainable conditions that could affect the accomplishment of the Work and/or the cost and expense thereof. Should any unforeseen difficulty arise from such conditions, either above or below the ground, which a prudent examination by the Contractor would have disclosed prior to execution of this Contract, the Contractor shall proceed with the Work without any claim for damage, extra compensation or extension of time occasioned thereby.

In the event an unforeseen difficulty arises which a prudent examination by the Contractor would not have disclosed prior to execution of the Contract, such as unknown or unusual latent subsurface or other physical conditions that differ materially from those conditions set forth in this Contract or in the Drawings and Specifications and which could not be ascertained from a prudent examination of the Jobsite and all relevant surrounding areas, the Contractor shall promptly notify the Owner orally and in writing (within three (3) Business Days) before such conditions are disturbed. The Owner will investigate such conditions and determine whether such conditions do so differ materially and could not have been reasonably ascertained, and, if such be the case, the Owner will make an equitable adjustment in (i) the Contract Price under SECTION IV - CONTRACT PRICE of this Contract and/or (ii) the Contract Schedule. No claim will be allowed hereunder unless the Owner has received the required notice from the Contractor.

- (c) Measurements, Dimensions and Routings. The Contractor shall make all field measurements necessary for the Work and shall be completely responsible for the accuracy of such measurements. The Contractor shall verify all dimensions and routings shown on all Drawings and Specifications, prior to the commencement of any Work (including any fabrication Work at any location).
- (d) Knowledge of Contract. The Contractor shall acquaint itself and require its Subcontractors to be thoroughly acquainted with all the provisions and requirements of this Contract and shall exact strict compliance with all terms hereof by such Subcontractors, as well as by its own employees.
- (e) Sanitation. Upon commencing Work, the Contractor shall (except as may be expressly otherwise provided herein) establish and maintain suitable sanitary facilities for the use of its employees.
- (f) Labor and Wages.
- (i) The Contractor agrees to perform the Work or cause the Work to be performed in accordance with the National Maintenance Agreement ("NMA"). To the extent approved by the Owner, the Contractor may fulfill its obligation under the

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preceding sentence to be bound by the NMA by causing applicable Subcontractors to execute and be bound by the NMA.

- (ii) Prior to commencement of the Work, the Contractor shall provide the Owner with copies of policies regarding the furnishing of labor including copies of all wage agreements, working rules, and regulations, if applicable, affecting the Work.
- (iii) The Contractor shall abide by all wage agreements, working rules and regulations, and labor policies applicable to the Work, and shall not become a party to, or otherwise make any change thereto without the prior, written consent of the Owner.
- (iv) The Contractor and each of its Subcontractors shall be responsible for the conduct of their own labor relations including, but not limited to, the direction of their work force, recruiting and hiring of personnel, selection of personnel, wages, promotions, transfer and discharge for just cause, and negotiations and adjustment of disputes between themselves and their employees, all in accordance with applicable Laws/Regulations. The Contractor shall be solely responsible for resolving any individual or collective employee actions or disputes arising out of or directed at the Contractor's operations at the Contractor's expense, and shall take all reasonable actions to minimize disruption to the Work resulting therefrom.
- (v) The Contractor agrees to indemnify and hold harmless the Owner from all claims, liens, obligations, liabilities, expenses, and causes of action of whatever kind arising out of any employment decision or action made or taken by the Contractor or its Subcontractors with respect to its or their employees.
- (vi) The Contractor and its Subcontractors shall not commit or permit any act which will interfere with the performance of work by the Owner or any Other Contractor. The Contractor shall keep the Owner fully informed as to potential labor problems and immediate written notice shall be given to the Owner of any labor dispute or anticipated labor dispute. The Contractor, after consultation with the Owner, shall avail itself of all legal remedies to which it may be entitled under applicable Laws/Regulations to resolve any dispute or to obtain temporary or permanent injunctions to permit uninterrupted continuation of the Work.
- (g) Overtime. No overtime shall be performed on the Work herein provided for, nor shall any claim for any extra charge therefor be valid, unless the same shall have been authorized prior to the performance thereof by the Owner in accordance with the provisions of this Contract for authorizing extra work. Overtime which does not result in any extra charge to the Owner may be authorized orally. Overtime is all time in excess of eight (8) hours per person per day or in excess of forty (40) hours per person per week and any other time for which a rate higher than a straight-time rate will be charged to the Owner pursuant to this Contract.
- (h) Identification. The Owner will issue passes for the Contractor's personnel to enable them to enter the Jobsite. Contractor's personnel shall park their vehicles in Owner-designated areas. An Owner issued pass shall be displayed on the dashboard of such vehicles at all times. When required by the Owner, the Contractor and its Subcontractors shall (i) furnish and require their personnel to wear Owner-approved identification badges and/or (ii) maintain accurate records of the times at which all of their personnel start and stop working at the Jobsite each day. The Contractor shall not admit any person to the Owner's premises unless such person has proper credentials and the presence of such person is necessary for the performance of this Contract.

- (i) Weekly Reports. The Contractor shall furnish the Owner with reports as set forth in PART ONE, Section 9.0, of the Conformed Contract Specification.
- (j) Workmanship. The Work shall be executed in a workmanlike manner by qualified, careful, and efficient mechanics in strict accordance with the Contract, Drawings and Specifications, or subsequent modifications thereof. All defective work shall be promptly removed and replaced by the Contractor at its expense.
- (k) Property Damage. The Contractor shall, at its own expense, and without prejudice to any of the other of the Owner's rights or remedies, repair any damage to machinery, equipment, or property of the Owner or Work under construction by the Contractor, the Owner, or Other Contractors, occasioned by the Contractor or its Subcontractors in the execution of this Contract.
- (l) Rented Equipment. It is understood that all construction equipment owned or rented from others by the Contractor shall be considered as part of the Contractor's equipment and the Contractor shall be responsible for any liability, property damage, or claims for compensation traceable to this equipment and to the acts of its operators. The Contractor shall at its own expense maintain and keep in good repair all said equipment, machinery, tools, and apparatus.
- (m) Protection of Personnel and Property. The Contractor shall be responsible for ensuring that its employees do not (i) perform any work on any of the Owner's equipment, components, structures, systems or material that have Owner-issued "Workmen's Protective Tags" attached thereto without the prior written approval of the Owner's Project Manager, or (ii) remove any Owner-issued "Workmen's Protective Tags" attached to any of the Owner's equipment, components, structures, systems, or material.

After the Contractor has received any material at the Jobsite, the Contractor shall be responsible for its safety and protection from damage until such time as it is turned over to the Owner. The Contractor shall also continuously maintain adequate protection to the Work in progress or completed, and the Owner's property.
- (n) Regulations Affecting Operations. Unless otherwise provided in this Contract, the Contractor shall secure all licenses and/or permits required by Laws/Regulations in any manner relating to the Work.

The Contractor shall comply with and perform all Work in accordance with, and ensure that the Work and all parts or aspects thereof comply with, all applicable Laws/Regulations. In case any Drawings or Specifications conflict with such Laws/Regulations, the Contractor shall promptly notify the Owner so that necessary changes and adjustments can be made as provided in this Contract. If the Contractor performs any work contrary to such Laws/Regulations, Contractor shall bear all costs arising therefrom.

If requested by the Owner, the Contractor will provide the Owner with copies of "I-9" forms required by the Immigration Reform and Control Act of 1986 (8 USC 1324A), including any amendments thereto, for each of the Contractor's employees performing work pursuant to this Contract.

The provisions of (a) Subpart A, Section 60-1.4(a), paragraphs (1)-(7) of Title 41 CFR, as amended, (b) Subpart A, Section 60-250.5, paragraphs (a)-(f) of Title 41 CFR, as amended, and (c) Subpart A, Section 60-741.5, paragraphs (a)-(f) of Title 41 CFR, as amended, are incorporated in this contract by reference.

- (o) Intentionally Omitted.

- (p) Materials and Equipment. No substitutions shall be made for materials or equipment which are of a specified type, kind, brand, model and/or manufacturer except with the prior written approval of the Owner. The Contractor shall submit all requests for approval of substitutions in writing, stating the reason for its request and attaching technical supporting documentation, and including documentation of any price differential between the proposed substitution and the specified item.

Without limiting any other responsibilities of the Contractor, it is the Contractor's duty to promptly inspect for defects, deficiencies or other nonconformances all materials and equipment procured for the Work hereunder and to promptly resolve all anomalies with the applicable Supplier or Subcontractor.

- (q) Performance Tests. Any performance tests required shall be conducted as specified in this Contract. Should any items of Work fail to perform as guaranteed in this Contract, the Contractor shall promptly make such corrections and adjustments as are necessary to meet the performance guarantees, and such corrections and adjustments, along with any retesting costs, shall be paid for by the Contractor.
- (r) Jobsite Conditions. In the performance of all Work at the Jobsite, the Contractor shall comply and ensure that its Subcontractors comply with Exhibit K ("Jobsite Conditions"), which is attached to and made a part of this Contract.
- (s) Trailers and Temporary Facilities.
- (i) Temporary buildings may be erected only at locations approved by the Owner's Project Manager. No wooden building(s) shall be permitted inside any permanent structure.
 - (ii) The Contractor shall provide all necessary and appropriate fire protection for trailers and temporary facilities, including but not necessarily limited to the following:
 - All office trailers shall be noncombustible or sprinklered.
 - All tool cribs shall be noncombustible or sprinklered.
 - The Contractor shall supply each sprinklered enclosure with a 1" hose having a one inch "Chicago" coupling to hook to the applicable source of water supply.
 - All temporary enclosures shall be:
 - noncombustible (all metal, metal studs and drywall) OR made of fire retardant treated wood-all pieces; and
 - all insulation must be non-combustible (fiberglass), no Styrofoam insulation board.
 - Enclosures 10'x10' or smaller may be wood but MUST be painted with a fire retardant paint-all surfaces inside and out.
- (t) Insulation. If any existing insulation must be removed to permit the installation of new materials and equipment, such existing insulation shall be removed by the Contractor. The Contractor shall replace the removed insulation and refinish the insulation at the juncture of the old and new work to return the old insulation work to a state where it will serve its past purpose and present a finished appearance.
- (u) Cleanliness. The Contractor shall keep the Jobsite orderly and clean at all times. Debris shall be regularly removed and not permitted to accumulate. At the close of the Work, the Contractor shall clean up all the Work; return all excess, unused, or retired materials belonging to the Owner to the custody of the Owner; turn over to the Owner or dispose of as designated by the Owner, all surplus materials (temporary and permanent), tools, supplies,

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and equipment paid for by the Owner; remove all the Contractor's own equipment, and leave the area clean and clear to the entire satisfaction of the Owner's Project Manager.

After the job is completed, a list shall be prepared by the Contractor showing the quantity and nature of all material and equipment disposed of by the Contractor, the place of delivery, and the work order number and account to be credited. Two (2) copies of such list shall be furnished to the Owner's Project Manager.

GC16 INDEMNITY

The Contractor shall assume all responsibility for and shall indemnify and save Consumers, Edison, and their respective officers, agents and employees ("Indemnitees") harmless from and against all losses, liabilities, claims, demands, payments, actions, legal proceedings, recoveries, costs, expenses, fines, reasonable attorney fees, settlements, judgments, orders and decrees of every nature and description brought or recovered against, or incurred by, the Indemnitees, or any or all of them, by reason of any: (a) injury to persons, including death or damages, sustained or claimed by the Contractor's employees, Consumers' employees, Edison's employees, Subcontractors' employees, or by any other person, and for any theft or loss of or damage to property (including environmental harm at the Jobsite from Hazardous Chemicals, as defined in Exhibit N, used by the Contractor during the performance of the Work), including separately or co-owned property of each of Consumers and Edison, or any other person, to the extent occurring or allegedly occurring because of or resulting from, or in any manner are connected with or arising from, (i) any action, operation or omission of the Contractor or any of its Subcontractors or Suppliers under this Contract, (ii) the Work which is the subject of this Contract, or (iii) any breach of any obligation of the Contractor under this Contract; and (b) infringement or alleged infringement of any patent, copyright, trademark, trade secret or other proprietary right by any material, machinery, device, equipment, process or design furnished or used by the Contractor in the performance of this Contract. Notwithstanding the foregoing, the Contractor shall not be required to indemnify an Indemnitee against liability for damages arising out of injury to persons or theft or loss of or damage to property to the extent caused by or resulting from the fault of such Indemnitee. Without limiting the foregoing, the Contractor shall at the request of the Owner defend at the Contractor's expense any suit or proceeding brought against Indemnitee(s) for any of the above-named reasons.

The provisions of this Article GC16 shall survive the termination or expiration of this Contract.

GC17 CONSTRUCTION LIEN ACT

- (a) Notice of Commencement. If requested in writing by the Contractor, or any of its Subcontractors, Suppliers or laborers, the Owner will, in accordance with the Construction Lien Act, Act 497, Michigan Public Acts of 1980, as amended, (a) provide the requesting party with a "Notice of Commencement" in accordance with said Act and/or (b) post said "Notice of Commencement" and record the same with the applicable Register of Deeds. The Contractor shall include the provisions of this paragraph in all of its procurement documents issued for the Work under this Contract.
- (b) Lien Claims. Should any claims be made or liens filed by any Subcontractors, Suppliers or other applicable claimant, the Contractor shall immediately notify the Owner in writing and, in the case of a lien, within two (2) Business Days furnish a bond or other security satisfactory to the Owner to fully protect, indemnify and hold harmless the Owner against such claims or liens, and the Owner may (in addition to all other rights or remedies hereunder or at law or equity) take such measures as the Owner deems advisable to discharge such claims or liens, and deduct from monies owed to the Contractor all costs, expenses and reasonable attorney's fees incurred in so doing; and if the monies then due the Contractor are insufficient to satisfy the amount owed, the Contractor agrees to immediately reimburse the Owner for such unsatisfied amounts.

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GC18 CONTRACT SCHEDULE; COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK

- (a) In addition to meeting and complying with the Work durations and completion dates set forth in SECTION III - DESCRIPTION OF WORK, the Contractor shall also comply with the more detailed scheduling and associated requirements set forth in the Conformed Contract Specification.
- (b) On and about the date set forth herein on which the Contractor is to start the Work, the Contractor shall have the necessary personnel, facilities and equipment at the appropriate location(s) to expeditiously and properly proceed with the Work. Without limiting the generality of the foregoing, at such time as the Contractor, in accordance with the Contract Schedule, is to begin Work at the Jobsite, the Contractor shall have the necessary personnel, construction equipment and other facilities at the Jobsite to promptly begin receiving and unloading materials and equipment and to otherwise expeditiously proceed with the Work.
- (c) The Contractor shall, at all times, furnish sufficient personnel, construction equipment, etc., to keep the Work progressing in compliance with the Contract Schedule.
- (d) When the Contractor deems that all Work associated with a particular Unit has been completed such that the time for Contractor Interim Turnover has been achieved, the Contractor shall give the Owner notice thereof in writing, including any required supporting documentation. After receipt of such notice of Contractor Interim Turnover:
 - the Owner will perform an inspection of the Work performed to determine if the Work has been completed in accordance with this Contract;
 - then, following successful completion of such Owner inspection, the Contractor will:
 - perform commissioning activities as specified in the Conformed Contract Specification, and
 - work with the Owner to perform pre-operational testing as determined by the Owner; and
 - then, if the Owner, following said Unit inspection, commissioning activities, and pre-operational testing, finds (subject to the results of subsequent operational and performance testing as mentioned below) the Work to have been completed in accordance with this Contract, the Owner will start "index testing" for the applicable Unit as stated in the Conformed Contract Specification, PART TWO, Technical Specification ME11450.2, Section 5.3.

If the Owner, following said Unit index testing, finds the Work to have been completed in accordance with this Contract, the Owner will advise the Contractor in writing of its acceptance thereof through issuance of the Unit Interim Acceptance. If the Owner determines that the Contractor has not achieved Unit Interim Acceptance, the Owner will notify the Contractor of defects or uncompleted Work on a Punch List and the Contractor shall correct same at the Contractor's expense. During this period between Contractor Interim Turnover and Unit Interim Acceptance, the parties shall cooperate in identifying corrective Work (Punch List and otherwise) that the Contractor may need to perform for Unit Interim Acceptance to be achieved, and the Contractor will perform such corrective Work.

The procedure set forth in the immediately preceding paragraphs of this Subarticle GC18(d) shall be repeated until the Owner determines (subject to the results of subsequent operational and performance testing as mentioned below) that the Work has been completed in accordance with this Contract, at which time the Owner will issue the Unit Interim Acceptance certificate.

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Any uncompleted or defective Work identified on a Punch List shall be rectified by the Contractor in a timely manner. If any such Punch List Work is not completed or corrected in a timely manner, then (in addition to and without limiting any other rights or remedies of the Owner under this Contract or at law or equity) the Owner shall, after notification to the Contractor, have the right to have such Punch List Work completed or corrected by others and any associated cost plus a fifteen percent (15%) markup for administrative and related overhead expenses shall be charged to the Contractor.

- (e) Following Unit Interim Acceptance of a particular Unit, the Owner shall conduct operational and performance testing as set forth in the Conformed Contract Specification (including "Limited Commercial Operation Test", "Extended Commercial Operation Test" and "Acceptance Testing" as set forth in the Conformed Contract Specification). If the Owner, following said Unit testing, finds the Work to have been completed in accordance with this Contract, the Owner will advise the Contractor in writing of its acceptance thereof through issuance of the Unit Final Acceptance. If the Owner determines that the Work has not been completed in accordance with this Contract, the Owner will notify the Contractor of defects or uncompleted Work and the Contractor shall correct same at the Contractor's expense.

The procedure set forth in the immediately preceding paragraph of this Subarticle GC18(e) shall be repeated until the Owner determines that the Work has been completed in accordance with this Contract, at which time the Owner will issue the Unit Final Acceptance certificate.

Any uncompleted or defective Work identified by the Owner shall be rectified by the Contractor in a timely manner. If any such Work is not completed or corrected in a timely manner, then (in addition to and without limiting any other rights or remedies of the Owner under this Contract or at law or equity) the Owner shall, after notification to the Contractor, have the right to have such Work completed or corrected by others and any associated cost plus a fifteen percent (15%) markup for administrative and related overhead expenses shall be charged to the Contractor.

GC19 WAIVERS

The failure of either party to enforce at any time any of the provisions of this Contract, any of its rights or remedies thereunder, or to require at any time performance by the other party of any of the provisions hereof, shall in no way be construed to be a waiver of such provision, nor in any way to affect the validity of this Contract or any part thereof, or the right of such party to thereafter enforce each and every such provision.

GC20 AUDITING OF CONTRACTOR'S ACCOUNTS AND REFUNDS

The Contractor shall make and keep as the same accrue, complete records and books of account of its costs, expenses, man-hours and equipment hours relating to the work hereunder in accordance with generally accepted accounting practices whenever, by the terms of this Contract, the Contractor's compensation shall be based wholly or partially on such costs, expenses, man-hours or equipment hours. Said records and books of account, together with any or all other memoranda pertaining thereto that may be kept by the Contractor, shall be open to examination during regular business hours by the Owner or its agents upon reasonable notice for the purpose of inspection, auditing, verifying or copying the same or making extracts therefrom. The Owner's payment of invoices hereunder shall not constitute acceptance of the accuracy thereof. Amounts shall be subject to audit in accordance with this Article GC20 for two (2) years after the making of the last payment under this Contract. If the Owner gives notice of intent to audit within said two (2) year period, it shall have a reasonable amount of time thereafter to complete the audit. Whenever an audit of the Contractor's records shows that the Owner is entitled to a refund, the Contractor shall promptly make said refund with interest, compounded annually, at the prime rate established

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by Citi Bank, N.A., as published in The Wall Street Journal, or the highest rate permitted by law, whichever is less. The interest rate for each month shall be the rate in effect as of the close of business on the last banking day of such month. Such interest shall accrue from and after the date(s) the over-billing is paid to and including the date the over-billing is refunded. The Contractor's costs of correcting any billing error shall not be charged to the Owner. The Owner's audit costs which are incurred because of incomplete, illegible or inaccurate records of the Contractor shall be paid by the Contractor.

GC21 WARRANTY

- (a) The Contractor warrants that title to all materials and equipment supplied to the Owner in the Work hereunder shall be good, free and clear of all liens, charges, claims and encumbrances of any nature. This warranty of title shall continue without limitation as to time.
- (b) The Contractor hereby warrants that
 - (i) all materials and equipment supplied by the Contractor shall be new and unused and of the applicable type, kind, brand, model and/or manufacture specified in the Drawings and Specifications or otherwise in this Contract. Where not otherwise specified, the Contractor shall ensure that all such materials and equipment are of suitable grade of their respective type for their intended use; and
 - (ii) all Work hereunder associated with each Unit, including without limitation all of the materials and equipment furnished by the Contractor and its Subcontractors and Suppliers in the Work and all of the workmanship of engineering, designing, fabricating, processing, modifying, assembling, erecting, constructing and/or installing both Contractor- (or Subcontractor- or Supplier-) supplied materials and equipment and Owner-supplied materials and equipment, shall conform to the Conformed Contract Specification and all other Drawings and Specifications, samples and other descriptions set forth or referenced in SECTION III - DESCRIPTION OF WORK of this Contract and to all Drawings and Specifications otherwise delivered, produced and approved pursuant to the terms and conditions of this Contract, and otherwise conform to all of the terms, conditions and requirements of this Contract, and be free from defects for a period of five (5) years and one hundred eighty-three (183) days) from and after the date of Unit Final Acceptance for the applicable Unit (the "Warranty Period").
 - (iii) Without limiting the generality of the Contractor's warranty as set forth in GC7(b)(ii), the Contractor warrants that the pump-turbine runner for each Unit will not show cavitation in excess of the limits and parameters set forth in the Conformed Contract Specification, PART TWO, Design Data Sheet ME-11450.2, Section 3.3 (the "Cavitation Warranty"). However, the warranty period for the Cavitation Warranty, instead of the Warranty Period in GC7(b)(ii), shall be eight thousand (8,000) Unit operating hours starting with the commencement of the Limited Commercial Operation Test (as defined in PART TWO, Section 5.6, of the Conformed Contract Specification) or two (2) years from Unit Interim Acceptance, whichever occurs first (the "Cavitation Warranty Period").

THE WARRANTIES SET FORTH HEREIN ARE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES BY THE CONTRACTOR (INCLUDING BUT NOT LIMITED TO EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS) AS TO THE QUALITY OR FREEDOM FROM DEFECTS OF THE WORK HEREUNDER, AND CONSTITUTES THE ONLY WARRANTIES OF THE CONTRACTOR WITH RESPECT TO THE QUALITY OR FREEDOM FROM DEFECTS OF THE WORK.

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- (c) In addition to the Contractor's own preceding warranties, the Contractor shall use commercially reasonable efforts to obtain from its Subcontractors and Suppliers warranties satisfactory to the Owner regarding the portion of the Work performed and/or supplied by them which are for the benefit of the Owner and the Contractor and enforceable by the Owner, the Contractor, or both, at the option of the Owner.

GC22 LIABILITIES ARISING OUT OF WARRANTIES

- (a) The following provisions apply to the warranty of title made by the Contractor in Subarticle GC21(a): If any failure to comply with such warranty of title appears at any time hereafter, the Contractor shall be liable and shall have the obligation to defend the title and the sale hereby made of said materials and equipment against all and every person or persons whomsoever and shall indemnify and save the Owner harmless from and against all losses, damages, costs, expenses (including reasonable attorneys fees), claims and liabilities of every kind and nature arising out of such failure to comply with the warranty.
- (b) The following provisions apply to the warranties made by the Contractor in Subarticle GC21(b):
- (i) If any failure to comply with the warranties appears during the Warranty Period, the Contractor shall, within a reasonable time after notification by the Owner, make at its own cost and expense any and all repairs or replacements necessary to remedy same (including performing all work incidental to such corrective work, such as but not limited to all associated removal, transportation, disposal and/or reinstallation of equipment or materials) at its sole expense. The Contractor shall obtain the Owner's written approval of the Contractor's intended schedule for performing such corrective work prior to commencing such work at the Jobsite; and the Contractor shall perform any such work so as to minimize disruption of or inconvenience to the normal activities of the Owner and/or others. The Contractor shall notify Owner upon completion of any corrective work to allow for the Owner to inspect such work. The Contractor's warranty set forth in Subarticle GC21(b) shall also apply to all corrective work performed pursuant to the foregoing provisions of this paragraph, with the five (5) years and one hundred eighty three (183) days term of such warranty for the corrective warranty work to commence on the Owner's final acceptance of such corrective work, not to exceed twenty four (24) months beyond of the end of the original Warranty Period.
- Notwithstanding the above, the following shall apply to the Cavitation Warranty:
- (1) If, during the Cavitation Warranty Period, cavitation (if any) to a pump-turbine runner does not exceed the Cavitation Warranty, then the Contractor shall have no further liability for the Cavitation Warranty for that runner.
- (2) If, during the Cavitation Warranty Period, cavitation to a pump-turbine runner exceeds the Cavitation Warranty, the Contractor shall correct all areas of cavitation for that runner, regardless of whether or not the cavitated areas exceed the Cavitation Warranty ("Cavitation Repair").
- (3) The Contractor shall rewarrant the Cavitation Repair under the same terms as the original Cavitation Warranty for a new Cavitation Warranty Period of eight thousand (8,000) Unit operating hours or two (2) years, whichever occurs first, beginning upon the Owner's final acceptance of the Cavitation Repair.
- (4) If, during the second Cavitation Warranty Period provided for in clause (3) above, cavitation to a pump-turbine runner exceeds the Cavitation

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Warranty, the Contractor shall correct all areas of cavitation for that runner, regardless of whether or not the cavitated areas exceed the Cavitation Warranty.

- (5) The Contractor shall have no further liability for the Cavitation Warranty for that runner after the second Cavitation Repair, under clause (4) above, has been accepted by the Owner.
- (ii) If the Contractor refuses, neglects, or is otherwise unable to take prompt action to correct any non-conformances or defects as provided in the immediately preceding clause "(i)", the Owner shall (without limiting any other rights or remedies) have the right to perform or to hire third parties to perform the corrective work (including all work incidental to such corrective work, such as but not limited to all associated removal, transportation, disposal and/or reinstallation of equipment or materials), and the Contractor shall reimburse the Owner upon demand for all reasonable cost and expense of all such work. The Contractor's warranty set forth in the Subarticle GC21(b) shall also apply to all corrective work performed by the Owner itself or a third party hired by the Owner pursuant to the foregoing provisions of this paragraph, with the term of the five (5) year one hundred eighty three (183) day warranty for the corrective work to commence on the Owner's final acceptance of such corrective work not to exceed twenty-four (24) months beyond of the end of the original Warranty Period.

GC23 FORCE MAJEURE

- (a) Force Majeure shall include any act, event, or occurrence beyond the Owner's or the Contractor's reasonable control, which the applicable party, despite its best efforts, is unable to prevent, avoid, overcome, delay or mitigate, including but not limited to: floods, epidemics, earthquakes, quarantine, blockade, war, insurrection or civil strife or terrorism (a "Force Majeure Event"), provided however, that Force Majeure shall in no event include (i) failure of any Suppliers or Subcontractors to timely deliver materials, or receipt from Suppliers or Subcontractors of defective materials, unless same were themselves caused by a Force Majeure Event; (ii) technological impossibility; (iii) a governmental act or failure to act, or order or injunction, caused by any act or failure to act of the Contractor or any of its Subcontractor or Suppliers; (iv) strikes or work stoppages excluding those of wide spread nature that are not targeted to the Contractor's or any of its Subcontractors' or Suppliers' or the Owner's operations; or (v) inclement weather other than inclement weather that prevents worker access and land deliveries to the Jobsite for more than three (3) consecutive Business Days.
- (b) Should the Owner or the Contractor incur a Force Majeure Event, the affected party shall notify the other party in writing within three (3) days from the date such affected party learned (or reasonably should have learned) of the start of and three (3) days after the affected party learns of (or reasonably should have learned of) the end of such Force Majeure Event. Each of said notices shall fully describe the claimed Force Majeure Event and outline the affected party's best efforts to prevent, avoid, overcome, delay or mitigate such Force Majeure Event. Further, in the case of such Force Majeure Event start notice, same shall identify the anticipated duration of such delay; and the affected party shall keep the other party informed, in writing, on a regular basis during the pendency of the Force Majeure Event as to any updated information regarding such anticipated duration. If the Owner agrees that a Force Majeure Event has occurred, an extension of the specific affected date(s) specified in the Contract Schedule, equal to the time reasonably needed to overcome the Force Majeure Event, will be granted. Such extension shall be the Contractor's sole recourse for the delay, shall not be a basis for

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any claim for additional compensation by the Contractor, and shall not operate to release the Contractor or any surety or guarantor from any of their obligations.

GC24 TITLE TO CONTRACTOR SUPPLIED EQUIPMENT AND MATERIALS

- (a) Title to all Contractor- (or Subcontractor- or Supplier-) supplied equipment and materials that are to be incorporated into and to become a part of the structures, buildings, fixtures, facilities and/or other improvements that are to be erected, constructed and/or installed at the Jobsite in the performance of the Work shall pass to the Owner (an undivided 51% interest to Consumers and an undivided 49% interest to Edison, as tenants in common) at the earlier to occur of:
- (i) the date such equipment or materials have been physically incorporated into said structures, buildings, fixtures, facilities and/or other improvements; or
 - (ii) the date the Owner has paid a Contractor invoice that covers Work of which such equipment or material is a part;

but in any event not later than the date of Unit Interim Acceptance of the applicable Unit. Said transfer of title shall in no way limit or otherwise affect any of the Owner's rights and remedies as set forth elsewhere in Contract or at law or equity. Notwithstanding the transfer of title, the Contractor's responsibility for loss or damage to such equipment and materials shall be determined in accordance with Article GC25 hereof.

- (b) Any Contractor- (or Subcontractor- or Supplier-) supplied equipment or material that has not yet been actually incorporated into the Work for which title has so passed to the Owner but which remains in the care and custody of the Contractor or any of its Subcontractors or Suppliers shall be clearly identified as being the property of the Owner and shall be segregated from the Contractor's (or such Subcontractor's or Supplier's) other work or inventory.
- (c) Upon Final Completion, any of the material or equipment on the Jobsite which remains unused and has neither been:
- (i) incorporated into the structures, buildings, fixtures, facilities and/or other improvements erected, constructed and/or installed at the Jobsite in the performance of the Work; nor
 - (ii) paid for by the Owner;

shall remain the property of the Contractor. The Contractor must, unless otherwise agreed in writing, remove any such material or equipment from the Jobsite, as soon as possible. Notwithstanding the foregoing, if the equipment or material in question is equipment or material that this Contract specifically requires the Contractor to provide to the Owner, including a situation where such equipment or material is part of particular quantity that this Contract provides that the Contractor must supply, any of such equipment or material which remains unused upon Final Completion will become and remain the property of the Owner.

GC25 RISK OF LOSS

- (a) The Contractor shall retain the risk of loss to the Work and all equipment and materials incorporated or intended to be incorporated into the Work (including, in addition to all Contractor- or Subcontractor- or Supplier- supplied equipment and materials, any Owner-supplied equipment or materials incorporated or intended to be incorporated into the Work, the risk of loss to which Owner-supplied equipment or materials shall pass to

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the Contractor effective upon delivery thereof to the Contractor), and also specifically including any equipment or materials in transit or in storage on or off the Jobsite, until completion of the Extended Commercial Operation Test of the applicable Unit (or, if this Contract is terminated prior to the completion of the Extended Commercial Operation Test of the applicable Unit, then until the effective date of such earlier termination of this Contract).

Without limiting the generality of any of the foregoing, the Contractor shall be fully responsible for any loss, theft or damage to the Work or to equipment and materials for which it has risk of loss as set forth in the immediately preceding paragraph due to theft, pilferage, rust, weathering, and the elements.

- (b) In the event of any loss, theft, damage or destruction for which the Contractor is responsible under Subarticle GC25(a), the Contractor shall forthwith repair or replace, at its own expense and to the satisfaction of the Owner, the Work and/or equipment or materials so lost, stolen, damaged or destroyed.

GC26 PARENT GUARANTY

Not later than sixty (60) days after execution of this Contract, the Contractor shall deliver to the Owner the Parent Guaranty, duly executed by a duly authorized officer of Toshiba Corporation ("Guarantor"), in the form attached hereto as Exhibit L by which Guarantor guarantees the full and timely payment and performance of all of the Contractor's obligations under this Contract. The Contractor covenants that the Parent Guaranty will remain in full force and effect to and until all obligations of the Contractor under this Contract, including all warranty obligations, have been fulfilled.

GC27 QUALITY CONTROL PROGRAM

- (a) The Contractor shall prepare a detailed quality assurance/quality control ("QA/QC") program ("QA/QC Program") for both any off-site shop operations and all Jobsite operations related to the Work. This QA/QC Program shall, without limitation, be designed to ensure that all material and workmanship will be:

- (i) fully in accordance with this Contract;
- (ii) suitable for their intended purposes; and
- (iii) consistent with the nature and character of the Work;

and shall otherwise be consistent with all requirements of the Contract Documents. The QA/QC Program shall include all necessary and advisable controls to ensure each item of the Work is in compliance with the foregoing and is adequately inspected, tested and recorded to prove such compliance to the Owner. As part of assuring such adequate inspection and testing, the QA/QC Program shall include appropriate witness and hold points.

As part of its QA/QC Program, the Contractor shall assign a QA/QC manager to the Work. The QA/QC manager shall be responsible for assuring that the Work is performed in accordance with the Contractor's QA/QC Program, and shall be available at the Jobsite at such times and for such duration as may be necessary to achieve this objective. The Contractor shall also take reasonable measures to ensure that all of its Subcontractors provide and maintain a suitable QA/QC Program in conformance to the Contractor's overall QA/QC Program.

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- (b) The Contractor shall submit said QA/QC Program to the Owner for review within thirty (30) days of the date of this Contract, and the Contractor shall submit any revisions to said QA/QC Program to the Owner for review prior to instituting such revisions; it being expressly understood, however, that any review of, comments upon or approval of said QA/QC Program (or any revisions to said QA/QC Program) by the Owner, or any failure by the Owner to object to any matter in said QA/QC Program (or to any revisions of said QA/QC Program), does not relieve the Contractor from the sole and entire responsibility for said QA/QC Program (and all revisions thereof), including its completeness, suitability and appropriateness for all purposes, or impose any liability on the Owner in connection therewith.
- (c) The Contractor shall be fully responsible is actively implementing and at all times enforcing its QA/QC Program and for requiring all Subcontractors to implement and at all times comply with their aforesaid QA/QC Programs.
- (d) The Contractor shall, upon or before Unit Final Acceptance for the applicable Unit, deliver to the Owner a complete copy of all of the QA/QC records specified to be delivered to the Owner in this Contract and those required in the Contractor's QA/QC program. The Contractor shall also itself retain all QA/QC records for the relevant statutory period and in any case for a minimum period of six (6) years after the date of Final Completion or the date of any earlier termination or expiration of this Contract, and make same available to the Owner upon request.
- (e) The Contractor shall perform all examinations, inspections, and tests during fabrication as described by the various Quality Assurance/Quality Control requirements, codes and standards, and Technical Specifications described in and/or referenced in the Conformed Contract Specification. Any deficiencies found shall be promptly resolved by the Contractor, to the Owner's satisfaction, at no cost to the Owner.

GC28 LIMITATION OF LIABILITY

- (a) Limitation of Liability. The Contractor's maximum liability to the Owner under this Contract, whether arising in breach of contract, tort (including negligence), strict liability, or otherwise, shall not, in the aggregate, exceed the Not-to-Exceed Total Contract Price (as hereinafter defined), as same may be amended by any Change Orders or otherwise (the "Total Liability Limit").

Subject to the Total Liability Limit, the Contractor's maximum liability to the Owner under this Contract with respect to the Work associated with any one (1) Unit, whether arising in breach of contract, tort (including negligence), strict liability, or otherwise, shall not, in the aggregate, exceed:

- (i) in the case of each of the first three (3) Units, an amount equal to two (2) times the applicable Not-to-Exceed Unit Total Price (as hereinafter defined), as same may be amended by any Change Orders or otherwise; and
- (ii) in the case of each of the last three (3) Units, an amount equal to the applicable Not-to-Exceed Unit Total Price (as hereinafter defined), as same may be amended by any Change Orders or otherwise;

(the "Unit Liability Limit").

Notwithstanding the foregoing, neither the Total Liability Limit nor the Unit Liability Limits shall apply to, and no credit shall be applied against such liability limitations for: (i) any claims, losses, costs, expenses, damages, liabilities or other amounts arising out of the

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Contractor's obligations under Articles GC16, GC17(b), or GC30 hereof; (ii) the Contractor's obligations for, under or in connection with the representations, agreements and undertakings covered by or made in any Partial Unconditional Waiver, Full Unconditional Waiver, Sworn Statement, or release that the Contractor has delivered or is required to deliver pursuant to this Contract; (iii) insurance proceeds paid in respect of, or otherwise any matter that should be covered by, any insurance required to be obtained and maintained by the Contractor or any Subcontractor under this Contract; or (iv) the Contractor's, or any of its Subcontractors' or Suppliers', willful misconduct or fraud.

- (b) No Liability For Consequential Damages. Other than with respect to the Contractor's obligations to pay liquidated damages to the Owner, in no event shall either Owner or Contractor be liable to the other, whether arising under in breach of contract, tort (including negligence), strict liability, or otherwise, for loss of anticipated profits, loss by reason of plant shutdown, non-operation or increased expense of operation, service interruption, cost of purchased or replacement power, claims of customers, cost of money, loss of capital or revenue, or for any special, incidental, exemplary or other consequential loss or damage.

GC29 TAXES

- (a) The Contract Price includes, and the Contractor shall pay, all sales and use taxes (except as expressly otherwise provided in Subarticle GC29(b), below), payroll taxes, contributions for unemployment compensation, and any other applicable taxes and assessments, whether federal, state, local, or otherwise, on equipment, materials, services, and personal property used or purchased for use in connection with the Work, and shall also pay all income, gross receipts, ad valorem, privilege, occupational, business, excise, import tariffs or duties, or any other taxes and assessments to which the Contractor may be liable or subjected to during the conduct of its business, or which may otherwise be applicable to the Work, now or hereafter effective during the term of this Contract and the Owner shall not be liable for any additional charges therefor.
- (b) It is specifically understood that the Owner claims that all materials, parts, supplies and equipment to be physically incorporated into each Unit ("Exempt Property") are exempt from Michigan sales and use tax by the reason of the industrial processing exemption. The Contractor shall purchase all Exempt Property as exempt from sales and use tax for use in industrial processing and shall furnish Michigan sales and use tax exemption certificates for any Exempt Property, properly executed, to its Suppliers and/or Subcontractors. Each invoice submitted to the Owner that includes any Exempt Property shall separately list such Exempt Property and show the total cost thereof.

GC30 ENVIRONMENTAL COMPLIANCE

- (a) Hazardous Waste Generated During the Work. The parties agree as follows with regard to generation and disposal of Hazardous Waste (as below defined) at the Jobsite in connection with the performance of the Work at the Jobsite:
- (i) As referred to herein, Hazardous Waste means hazardous waste as such term is defined in the Resource Conservation and Recovery Act U.S.C 6901, et seq, and rules and regulations issued thereunder as are now in effect or hereafter amended from time to time.
- (ii) The Contractor shall be responsible for properly identifying as Hazardous Waste all Hazardous Waste that is generated in the performance of the Work at the Jobsite.

The Owner will furnish the Contractor with containers for disposal of Hazardous

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Waste generated at the Jobsite during the Work and shall designate an accumulation area at the Jobsite where such containers are to be placed by the Contractor. Until such time as the Contractor properly places such Hazardous Waste in such containers in the designated Hazardous Waste accumulation area, the Contractor shall bear all responsibility for such Hazardous Waste in accordance with all applicable Laws/Regulations. After such Hazardous Waste has been properly placed by the Contractor in the proper containers in the designated Hazardous Waste accumulation area, the Owner will dispose of same in accordance with applicable Laws/Regulations.

- (iii) The Contractor shall use all reasonable efforts to minimize, and wherever possible to prevent and avoid, the generation of Hazardous Waste at the Jobsite in the performance of the Work.
- (iv) In respect to any and all asbestos removal that may be performed by the Contractor, the Contractor shall comply with the "Special Conditions for Removal of Asbestos at Consumers Energy Company Facilities" (CSS Form 0602), which is attached to and made a part of this Contract as Exhibit M. Without limiting the generality of the immediately preceding clause "(iii)", the Contractor shall use all reasonable efforts to minimize, and wherever possible to prevent and avoid, the generation of asbestos waste at the Jobsite in the performance of the Work.

(b) Toxic/Hazardous Materials.

- (i) The Contractor warrants that any equipment or materials to be incorporated into the Work will contain no asbestos, asbestos products, hazardous or toxic materials regulated under applicable Laws/Regulations, except as expressly approved by the Owner or specifically described in this Contract.
- (ii) The Contractor warrants that all Hazardous Chemicals, as defined in Exhibit N, furnished or used by the Contractor or any of its Subcontractors in performing the Work will be contained, packaged, labeled, marked, transported, stored, handled and used in full compliance with all applicable Laws/Regulations, with any requirements set forth or referenced elsewhere in this Contract, and with Generally Accepted Industry Standards.
- (iii) The "Contract Addendum Contractor's Requirements - Hazardous Chemicals" is attached to and made a part of this Contract as Exhibit N. With respect to the Contractor's obligations to provide Material Safety Data Sheets to the Owner as set forth on that Addendum, it is understood that the Contractor shall provide the applicable Material Safety Data Sheets to the Owner at least fourteen (14) days prior to delivery to the Jobsite of the applicable Hazardous Chemicals; and further, that the Contractor shall itself maintain additional copies of all Material Safety Data Sheets in a central location at the Jobsite and readily accessible to all persons at the Jobsite.

- (c) Pollution. The Contractor must conduct its operations at the Jobsite in a manner that will prevent pollution; ensure that no pollutant or waste material of any kind may be discharged or otherwise allowed to escape from the Work, or any item provided to complete or perform the Work, or from any construction plant, equipment, material, or temporary Work, which is under the control of the Contractor; immediately clean up any pollutant or waste material which is so discharged or does escape and notify the Owner in writing as to type of pollution and action taken, and remove all wreckage and debris resulting from or arising out of or in connection with performance of the Work by the Contractor or any of its Subcontractors; and ensure that all of the Contractor's personnel and its Subcontractors comply with the requirements of this Subarticle GC30(c). The

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Contractor shall not be liable to the Owner for any preexisting contamination unless, and then only to the extent, the Contractor knows of or reasonably should have discovered, and exacerbates, such preexisting contamination.

GC31 SAFETY

- (a) The Contractor shall be responsible for placing high priority on safety and health during performance of the Work. The Contractor shall be responsible for safety related to and during the performance of the Work at the Jobsite and shall take reasonable measures to ensure that it and all of its Subcontractors provide and maintain a safe working environment and properly protect (i) all persons in proximity of the Jobsite, employed or otherwise, from risk of injury and danger to health, and (ii) all property, including property of the Owner and third parties, from damage or loss. Before commencing Work, the Contractor shall inspect the Jobsite and become familiar with the safety and health conditions there, and shall effectively communicate to all of its employees and Subcontractors all safety, fire and health regulations in force at the Jobsite. The Contractor shall also be responsible for first aid and medical service for all the above employees at the Jobsite.
- (b) The Contractor shall develop a Contract-specific, comprehensive and detailed safety/environmental/health/fire protection program (collectively, the "Safety Program"). The Contractor shall submit said Safety Program to the Owner for review not less than thirty (30) days prior to the Contractor's mobilization to the Jobsite (unless some other period is specified elsewhere in the Contract Documents, in which that other period specified elsewhere in the Contract Documents shall apply), and the Contractor shall submit any revisions to said Safety Program to the Owner for review prior to instituting such revisions; it being expressly understood, however, that any review of, comments upon or approval of said Safety Program (or any revisions to said Safety Program) by the Owner, or any failure by the Owner to object to any matter in said Safety Program (or to any revisions of said Safety Program), does not relieve the Contractor from the sole and entire responsibility for said Safety Program (and all revisions thereof), including its completeness, suitability and appropriateness for all purposes, or impose any liability on the Owner in connection therewith.

The Contractor's Safety Program shall, without limitation, address the requirements set forth in the Owner's Safety/Fire Protection Program, in the Michigan Occupational Safety and Health Act (Act 154 of the Michigan Public acts of 1974) as amended, in OSHA, and in all other applicable Laws/Regulations and Generally Accepted Industry Standards. The Contractor's Safety Program shall also include provisions for every employee of the Contractor to complete the Owner's site orientation program. Further, the Contractor shall incorporate in its Safety Program a program to maintain a drug and alcohol free work place while performing the Work.

The Contractor shall be fully responsible for actively implementing and at all times enforcing its Safety Program and for requiring all Subcontractors to implement and at all times comply with said Safety Program; and it is acknowledged that the Owner has no obligation for implementing or enforcing the Contractor's Safety Program.

As part of its Safety Program, the Contractor shall maintain, at a minimum, one safety and health supervisor (Contractor's Safety Person) at the Jobsite at all times during performance of the Work to assure that all activities are performed in accordance therewith.

Also, as part of its Safety Program, the Contractor shall ensure that disabling injuries suffered by the Contractor's employees, or an employee of its Subcontractor, are promptly reported to the Owner's Project Manager, and the Contractor shall furnish the Owner with

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three (3) copies, on its regular accident forms, of reports covering all such disabling (lost time) injuries.

Also, as part of its Safety Program, the Contractor is required to include a Crane Management Plan in accordance with the Conformed Contract Specification.

- (c) Without limiting the generality of any of the preceding provisions of this Article GC31, the Contractor shall be responsible for insuring that none of its employees or those of any of its Subcontractors are performing Work while under the influence of drugs or alcohol. The Contractor shall advise its employees and its Subcontractors while they are on the Owner's premises that they will be subject to the provisions of the Owner's substance abuse control policy, which may include drug and alcohol testing.
- (d) The Contractor must maintain in a safe, sound, good, and efficient condition all construction equipment, materials, and temporary works and other items used in performing the Work (whether provided by the Contractor or by the Owner) and ensure that they are, at all times, capable of safely performing the functions for which they are intended. The Contractor shall modify its method of work if necessary in order to work safely. Any Owner-provided equipment and facilities used and damaged by the Contractor shall be repaired at the Contractor's cost.
- (e) The Contractor shall require its employees and its Subcontractors' employees to attend any safety orientations, meetings and/or training, project safety appraisals or safety investigations as may be required by the Owner, provided, that none of same shall in any way relieve the Contractor from any of its obligations for safety and health set forth in this Article GC31, or any other obligations or liability under this Contract, or impose any liability on the Owner in connection therewith.
- (f) When any type of heavy equipment is within close proximity to plant systems, structures, or components at the Jobsite, the Contractor shall be required to provide an equipment "spotter". Such spotter shall be a person dedicated to ensuring that booms, baskets, forks, cables and any other equipment and materials being lifted maintain safe working clearances from, and do not come in contact with, any systems, structures, or components. Use of a spotter is not necessarily limited to situations where equipment is actually in use, and, for example, shall also be used whenever appropriate to assure that clearances from overhead structures are maintained while equipment is in transit at the Jobsite (e.g., driving to and from laydown yards or specific work areas). In case of doubt as to whether or not a spotter is needed, the Contractor shall resolve such doubt in favor of using a spotter.
- (g) Without imposing any obligation on the Owner to do so or any liability on the Owner for in any way or at any time failing to do so, or relieving the Contractor from any obligations or liabilities, it is understood that the Owner shall have the right to direct the Contractor to cease, or not proceed with, any Work that the Owner considers to be unsafe.
- (h) The Contractor shall provide Confined Spaces Training for its personnel's access to confined space areas of the Units, but not limited to, the thrust bearing area, draft tube, and spiral case areas. It shall be the responsibility of the Contractor to make sure that any of its personnel requesting access to these areas have recently received applicable training by the Contractor. Written proof of such training will be required to be submitted to the Owner. The Contractor shall ensure that any of its personnel that visit the Jobsite for any reason, other than routine meetings, shall have a working knowledge of the workman's protective tagging process and all relevant Jobsite emergency procedures. These requirements also apply to any Subcontractors at the Jobsite.

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GC32 INFORMATION REQUESTS

In any case where the Contractor desires to request information from the Owner relative to the Work, the Contractor shall follow Owner's Request For Information ("RFI") processes, including that the Contractor shall use the Owner's RFI form(s) for any and all such information requests. The Owner will notify the Contractor in writing of the RFI processes and will supply Contractor with the required RFI form(s) in electronic form. The Owner may revise and/or update and/or re-issue such RFI processes and/or RFI form(s) at any time and from time to time, and the Contractor shall thereupon use and follow the revised/updated/re-issued processes/form(s).

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SECTION III
DESCRIPTION OF WORK

The Contractor shall perform all of the Work of the turbine generator overhaul of each Units 1 through 6, both inclusive, of the Owner's Ludington Pumped Storage Plant located near Ludington, Michigan, as set forth in and in accordance with the attached Conformed Contract Specification, and all other or further Drawings and Specifications referenced therein or to be hereafter issued, produced and/or revised as set forth therein, all of same being incorporated herein and made a part hereof by this reference.

The Contractor shall perform and complete all such Work in accordance with the following Contract Schedule, and in accordance with the more detailed schedule requirements to be developed pursuant to Subarticle GC18(a) of SECTION II - GENERAL CONDITIONS and the applicable provisions of the above referenced Conformed Contract Specification:

<u>Date</u>	<u>Milestone</u>
August 1, 2011	Design of All Engineered Components, Items of Equipment, and Systems Finalized
April 1, 2013	Site Ready to Receive Materials for First Unit Overhaul

Milestone	Outage Sequence					
	First*	Second*	Third*	Fourth*	Fifth*	Sixth*
All Material On Site for Unit Overhaul	June 1, 2013	June 1, 2014	June 1, 2015	June 1, 2016	June 1, 2017	June 1, 2018
Overhaul Outage Start	September 2013	September 2014	September 2015	September 2016	September 2017	September 2018
Contractor Interim Turnover	April 2014	April 2015	April 2016	April 2017	April 2018	April 2019
Overhaul Outage Finish	May/June 2014	May/June 2015	May/June 2016	May/June 2017	May/June 2018	May/June 2019
Unit Interim Acceptance	May/June 2014	May/June 2015	May/June 2016	May/June 2017	May/June 2018	May/June 2019
Limited Commercial Operation Testing Complete	June 2014	June 2015	June 2016	June 2017	June 2018	June 2019
Extended Commercial Operation Testing Complete	August 2014	August 2015	August 2016	August 2017	August 2018	August 2019
Unit Final Acceptance	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020

* The specific Overhaul Outage Start date in the month of September and Finish date in the month of May/June of the following calendar year for each Unit shall be as determined by the Owner based on Plant operating needs. The outage duration between such Outage Start date and Outage Finish date shall be two hundred fifty one (251) days, and shall be in accordance with PART TWO, Section 3.4.2, of the Conformed Contract Specification. The specific dates in the above indicated months for completion of other above listed Milestones shall be in accordance with the Conformed Contract Specification.

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Pre-approved Subcontractors per Article GC4 ("SUBCONTRACTING") of SECTION II - GENERAL CONDITIONS, along with a description of the scope of Work for which each is so approved, are as follows:

List of Major Subcontractors

1) Toshiba Corporation

- Design engineering and procurement of pump-turbine and generator-motor components except stator frame will be made by Toshiba Corporation in Japan.
- Manufacturing of generator –motor stator frame and pump-turbine components will be made by Toshiba Hydro Power (Hangzhou) Co., Ltd. In China, which is a subsidiary of Toshiba Corporation.
- Please refer to 1689-0011-0024 "Proposed major manufacturing facilities and major material supplier" attached.

2) Toshiba International Corporation

- Design engineering, procurement and installation of Pony Motor
- Stacking and Winding of Motor Generator
- Demonstration Model

3) Hydro Power Services

- Disassembly and Reassembly of Units
- Refurbishment of Mechanical Components

4) ABB

- Excitation System
- Generator Breakers

5) Specfab

- Isolated Phase Bus
- Disconnect Switch
- AC and DC Bus

6) Gracon Corporation

- Liquid Rheostat

7) Southern Power Systems

- Current Transformers

TOSHIBA

No.; 1689-0011-0024R1

Major manufacturing facilities

No.	Company Name	Address	Contact
1	Toshiba – Keihin Product Operations	2-4, Suehiro-cho, Tsurumi-ku, Yokohama, Japan	Name: Mr. Hideyuki Hachiya Title: Chief Specialist Tel: +81-(0)3-3457-3605 Fax: +81-(0)3-5444-9186 e-mail: hideyuki.hachiya@toshiba.co.jp
2	Toshiba Hydro Power (Hangzhou) Co., Ltd.	1, Gongren Road, Fuchunjiang Tonglu Zhejiang, China	Name: Mr. Tatsuya Hirota Title: Executive Vice President Tel: +86-571-5680-9071 Fax: +86-571-5080-9058 e-mail: hirota.tatsuya@toshiba-thpc.com
3	Zhejiang Leevy Machinery Manufacture Co., Ltd	8, Yunxiu Road., Deqing Economy Development Zone, Zhejiang Province, China	We wish to suggest that the customer contact the material supplier via Mr. Murayama of Toshiba because of the ease of communication in English. Name: Mr. Atsushi Murayama Tel: +81-(0)45-510-6410 e-mail: atsushi.murayama@toshiba.co.jp

TOSHIBA

No.; 1689-0011-0024R1

Major material supplier

No.	Company Name	Address	Contact
1	Toshiba Hydro Power (Hangzhou) Co., Ltd.	1, Gongren Road, Fuchunjiang Tonglu Zhejiang, China	Name: Mr. Naoshi Kato Title: Vice President Tel: +86-571-5698-7266 Fax: +86-571-5698-7258 e-mail: naoshi1.kato@toshiba.co.jp
2	Shenyang GeTai Hydro Power Equipment Co., Ltd. (Anghan Iron and Steel Group Complex)	3, NO.205 , HongHui Road , Yuhong District , Shengyang , Liaoning Province , China	We wish to suggest that the customer contact the material supplier via Mr. Kato of THPC because of the ease of communication in English.
3	China ErZhong Group (DeYang) Heavy Industries Co., Ltd.	5, 1# Zhujiang Xi Road , Deyang , Sichuan, China	
4	Shenyang Research Institute of Foundry	6, 17 South Yunfeng St, Tiexi District, Shengyang, China	We wish to suggest that the customer contact the material supplier via Mr. Murayama of Toshiba because of the ease of communication in English.
5	TAEWOONG	9, Songjeong-dong, Gandseo-gu, Busan, Korea	
6	Pacific Special Alloy Casting Co., Ltd	10, Minato-cho jyoetsu-city, Niigata, Japan	Name: Mr. Atsushi Murayama Tel: +81-(0)45-510-6410 e-mail: atsushi.murayama@toshiba.co.jp

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B. Bonus Payments For Early Completion and Liquidated Damages For Lateness

For purposes of the following provisions, "Unit Interim Acceptance Date Deadband" means a period starting on the date that falls ten (10) days prior to and ends on the date that falls ten days (10) days after the applicable Unit Interim Acceptance Milestone Date set forth in SECTION III – DESCRIPTION OF WORK.

- (i) Bonus Payment - In the event that, for a particular Unit, the date of Unit Interim Acceptance falls before the start date of the Unit Interim Acceptance Milestone Date Deadband, then the Owner will, following such Unit Interim Acceptance, pay to the Contractor a bonus payment of Twenty Five Thousand Dollars (\$25,000.00) for each day by which the date of Unit Interim Acceptance precedes said start date of the Unit Interim Acceptance Milestone Date Deadband (the "Unit Early Interim Acceptance Bonus"). Notwithstanding the above, the maximum Unit Early Interim Acceptance Bonus for which the Contractor will be eligible in connection with any particular Unit shall be Two Hundred Fifty Thousand Dollars (\$250,000.00).
- (ii) Liquidated Damages - In the event that, for a particular Unit, the date of Unit Interim Acceptance falls after the last day of the Unit Interim Acceptance Milestone Date Deadband, then the Contractor shall, following such Unit Interim Acceptance, pay to the Owner, liquidated damages of:
 - Twenty Five Thousand Dollars (\$25,000.00) for each day by which Unit Interim Acceptance follows said last day of the Unit Interim Acceptance Milestone Date Deadband, up to the first thirty (30) days beyond the last day of the Unit Interim Acceptance Milestone Date Deadband; and
 - Fifty Thousand Dollars (\$50,000.00) for each day beyond said first thirty (30) by which Unit Interim Acceptance follows said last day of the Unit Interim Acceptance Milestone Date Deadband;

hereinafter referred to as "Unit Late Interim Acceptance Liquidated Damages".

It is expressly acknowledged and agreed that said Unit Late Interim Acceptance Liquidated Damages represent a reasonable estimate of the Owner's actual damages for late Unit Interim Completion (the precise computation of which damages would be impracticable or extremely difficult) and are not a penalty.

The payment by the Contractor to the Owner of liquidated damages under Part 2.B. above of this SECTION IV - CONTRACT PRICE is the Owner's sole and exclusive remedy for loss or damage arising from delay past the end of the applicable Unit Interim Acceptance Milestone Date Deadband in achieving Unit Interim Acceptance for the applicable Unit; except that failure to achieve Unit Interim Acceptance for any Unit by the end of the applicable Unit Interim Acceptance Milestone Date Deadband remains subject to the Owner's other rights and remedies under this Contract, including the Owner's right to terminate this Contract for Major Default as described in Subarticle GC7(b) of SECTION II - GENERAL CONDITIONS and to exercise the rights and remedies set forth in said Subarticle GC7(b) and the Owner's rights to with respect to the ten percent (10%) retainage and otherwise to withhold payment as set forth in Article 5 of SECTION I - AGREEMENT.

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EXHIBIT L
PARENT GUARANTY

This **GUARANTEE AGREEMENT** (the "Guaranty") is made as of the ____ day of _____, 20____, by TOSHIBA CORPORATION, a corporation formed under the laws of Japan, with its head office situated at 1-1 Shibaura 1-chome, Minato-ku, Tokyo 105-8001, Japan (herein called the "Guarantor"), for the benefit of CONSUMERS ENERGY COMPANY, a corporation organized under the laws of the State of Michigan, United States of America and having a place of business at One Energy Plaza, Jackson, Michigan 49201, United States of America ("Consumers"), and THE DETROIT EDISON COMPANY, a corporation organized under the laws of the State of Michigan, United States of America and having a place of business at One Energy Plaza, Detroit, Michigan 48226, United States of America ("Edison") (Consumers and Edison being sometimes herein collectively called the "Owner")

RECITALS:

WHEREAS, Toshiba International Corporation, a corporation duly organized and existing under the laws of California, with headquarters situated at 13131 West Little York, Houston, Texas 77041 (herein called "TIC") is a wholly-owned subsidiary of Toshiba America, Inc., which is a wholly-owned subsidiary of the Guarantor;

WHEREAS, the Owner and TIC intend to enter into that certain "Ludington Pumped Storage Plant, Engineering, Procurement & Construction Contract for Unit 1 through 6 Turbine Generator Overhaul" dated as of October 15, 2010 (as the same may be amended from time to time, herein called the "Contract");

WHEREAS, the Owner desires the Guarantor to assure that TIC will perform all of its obligations pursuant to the Contract, and that the Guarantor will cause all such obligations to be performed if TIC defaults;

WHEREAS, Article GC26 of SECTION II – GENERAL TERMS AND CONDITIONS of the Contract requires TIC to obtain and provide a parent company guarantee of TIC's performance; and

WHEREAS, the Guarantor, and as the indirect parent company of TIC, is willing to enter into this Guaranty to satisfy the conditions of the Contract, and understands that its entry into this Guaranty is a material inducement for the Owner to execute the Contract;

NOW, THEREFORE, in consideration of the premises and mutual covenants set forth herein, the parties hereto agree as follows:

1. The capitalized terms used, but not defined, in this Guaranty shall have the meanings ascribed to such terms in the Contract.
2. The Guarantor absolutely, unconditionally and irrevocably guarantees to the Owner that in the event TIC fails, in any respect, to perform or observe the terms and provisions of the Contract, the Guarantor shall immediately upon first demand in writing by the Owner perform or take such steps as are necessary to achieve performance or observance in full of such terms and provisions and shall indemnify, defend, hold harmless and keep indemnified the Owner against any and all losses, damages, claims, costs, charges, and expenses howsoever arising from the said failure, including without limitation, the Owner's reasonable costs, expenses and attorney fees incurred in enforcing its rights under the Contract and/or this Guaranty. This Guaranty shall be a continuing guaranty of payment and performance and not collection and shall remain in full force and effect until all of the obligations guaranteed hereby have been indefeasibly paid and performed. Notwithstanding any provision in this Guaranty to the contrary, the Guarantor's obligations hereunder are (i) subject to any limitations contained in the Contract on TIC obligations thereunder (including, without limitation, any and all limitations on liability of TIC thereunder), and (ii) subject to any defenses, claims, counterclaims or other offsets that TIC may have pursuant to the terms of the Contract against the Owner and any of its agents; provided, that in no event shall Guarantor's obligations be limited by or subject to any defenses, claims, counterclaims or other offsets based upon or arising out of:
 - the bankruptcy, insolvency, reorganization, placement into receivership, dissolution or liquidation of TIC (or any other matter similar to any of the foregoing), or

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- any failure of TIC to have been properly organized as a corporation, or to remain or have remained in good standing, or to qualify or have qualified and/or remain qualified to do business in any jurisdiction where same may at any time be required (or any other matter similar to the foregoing); or
- any lack of any required consent or approval required to be obtained by, for or in any manner on behalf of TIC from any governmental body, or any other legal impediment of any nature to TIC's ability to enter into and perform the Contract (or any other matter similar to the foregoing); or
- any lack of power, capacity or authority of TIC to enter into or perform under the Contract (or any other matter similar to the foregoing).

If at any time all or any part of any payment theretofore applied by the Owner to any of the obligations hereby guaranteed are or must be rescinded or returned by the Owner because of any insolvency, bankruptcy, reorganization, receivership, dissolution, liquidation or other similar proceeding involving TIC, such obligations shall for the purpose of this Guaranty, to the extent that such payment is or must be rescinded or returned, be deemed to have continued in existence notwithstanding such application by the Owner, and this Guaranty shall continue to be effective or be reinstated, as the case may be, as to such obligations as though such application by the Owner had not been made.

3. The Guarantor hereby waives (i) notice of acceptance of this Guaranty by the Owner, and (ii) notice of the amount of the obligations of the TIC to the Owner outstanding from time to time. The liability of the Guarantor hereunder shall not be reduced or discharged by termination of the Contract, by any forbearance or indulgence by the Owner towards TIC or the Guarantor whether as to payment, time, performance, or otherwise, any bankruptcy, insolvency, reorganization, composition, adjustment, merger, consolidation, dissolution, liquidation or other like proceeding or occurrence relating to TIC or any change in the ownership, composition or nature of TIC, or any other circumstance which might otherwise constitute a defense against, or a legal or equitable discharge of, the Guarantor's liability under this Guaranty. The Guarantor consents and agrees that, without notice to or consent by the Guarantor and without affecting or impairing the liability of the Guarantor under this Guaranty, the Owner may compromise or settle and/or extend the period of duration or the time for performance of any of TIC's or any other party's obligations required pursuant to the Contract and/or may refuse to enforce any or all of TIC's or any other party's obligations, and/or may grant other indulgences to TIC, and/or may waive, amend or supplement in any manner the provisions of the Contract or any other document, instrument or agreement relating thereto. The obligations of the Guarantor hereunder shall, without further action, be deemed to extend to and include all obligations of the TIC under or as modified by or arising from changes or amendments in or to the terms and conditions of the Contract and otherwise to any renewal, extension, increase, acceleration or other alteration of any of the obligations guaranteed hereby.
4. The Guarantor agrees to make any payment due hereunder upon first written demand without set-off or counterclaim and without any legal formality such as protest or notice being necessary, and waives all privileges or rights which it may have as a guarantor, including any right to require the Owner to exhaust remedies against TIC or any other person.
5. The obligations of the Guarantor hereunder shall continue in full force and effect after expiry or termination of the Contract until all of TIC's obligations and liabilities under the Contract (including, without limitation, warranty obligations) have been fully discharged.
6. This Guaranty and the undertakings herein contained shall be binding upon the successors and assigns of the Guarantor and shall extend to and inure for the benefit of the successors or permitted assignees of the Owner. The Owner may assign, charge, or transfer all or any of its right, title and interest in this Guaranty upon such terms as the Owner may think fit to any agent for and on behalf of any syndicate of banks and financial institutions providing credit and guarantee facilities to the Owner in connection with the Contract. No person other than the Owner, or such permitted assignees as described above, is intended as a beneficiary of this Guaranty nor shall any such person have any rights hereunder. The Guarantor may not assign or otherwise transfer any of its rights or obligations hereunder without the prior written consent of the Owner.
7. In the event there is any dispute under the Contract that relates to a sum being claimed under this Guaranty, which dispute is submitted to dispute resolution in accordance with the procedures specified in the Contract, the obligations under this Guaranty shall be suspended pending the outcome of such dispute resolution procedures and the Guarantor further agrees that the results of such procedures shall be conclusive and binding on it for purposes of determining its obligation under this Guaranty. This Guaranty

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shall be governed by and construed and enforced in accordance with the laws of the State of Michigan, provided that without regard to principles of conflicts of laws or any provision of such law invalidating any provision of this Guaranty or modifying the intent of the parties as expressed in the terms of this Guaranty shall not apply. The Guarantor hereby irrevocably appoints Toshiba International Corporation, Corporate Offices, located at 13131 West Little York Road, Houston, Texas 77041, Attention: Margaret M. McKay, General Counsel, as its agent for service of process hereunder. The Guarantor and, by the acceptance of the benefits of this Guaranty, the Owner agree to commence any action, suit or proceeding relating hereto in the United States District Court for the Eastern District of Michigan or if such suit, action or other proceeding may not be brought in such court for jurisdictional reasons, in the appropriate courts of the State of Michigan located in Jackson County. The Guarantor and, by the acceptance of the benefits of this Guaranty, the Owner further agree that service of any process, summons, notice or document by U.S. registered mail to such party's respective address set forth above shall be effective service of process for any action, suit or proceeding in the State of Michigan with respect to any matters to which it has submitted to jurisdiction in this Section 7. The Guarantor and, by the acceptance of the benefits of this Guaranty, the Owner irrevocably and unconditionally waive any objection to the laying of venue of any action, suit or proceeding arising out of this Guaranty or the transactions contemplated hereby in (i) the appropriate courts of the State of Michigan located in Jackson County, Michigan, or (ii) the United States District Court for the Eastern District of Michigan, and hereby further irrevocably and unconditionally waive and agree not to plead or claim in any such court that any such action, suit or proceeding brought in any such court has been brought in an inconvenient forum.

THE GUARANTOR, AND THE OWNER BY ACCEPTANCE OF THE BENEFITS HEREOF, KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVES THE RIGHT THEY MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY LITIGATION BASED HEREON, OR ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS GUARANTY AND ANY AGREEMENT CONTEMPLATED TO BE EXECUTED IN CONJUNCTION HERewith, OR ANY COURSE OF CONDUCT, COURSE OF DEALING, STATEMENTS (WHETHER VERBAL OR WRITTEN) OR ACTIONS OF ANY PARTY HERETO. THIS PROVISION IS A MATERIAL INDUCEMENT FOR THE OWNER ENTERING INTO THE CONTRACT.

8. This Guaranty constitutes the sole and entire agreement between the Guarantor and the Owner with respect to the subject matter hereof and supersedes and replaces any and all prior agreements, understandings, negotiations or correspondence between them with respect thereto.
9. Time is of the essence of this Guaranty.
10. No amendment or waiver of any provision of this Guaranty, nor consent to any departure by the Guarantor therefrom, shall be effective or binding upon the Owner without prior written consent from the Owner. Any such amendment, waiver or consent which is so granted by the Owner shall apply only to the specific occasion which is the subject of such amendment, waiver or consent and shall not apply to the occurrence of the same or any similar event on any future occasion. No failure on the part of the Owner to exercise, and no delay by the Owner in exercising, any right hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any right hereunder preclude any other or further exercise thereof or the exercise of any other right by the Owner. No notice to or demand on the Guarantor in any case by the Owner hereunder shall entitle the Guarantor to any further notice or demand in any similar or other circumstances or constitute a waiver of the rights of the Owner to take any other or future action in any circumstances without notice or demand. The remedies provided to the Owner in this Guaranty are cumulative and not exclusive of any other remedies provided by law.
11. If a provision of this Guaranty is invalid, prohibited or unenforceable, such provision shall be ineffective only to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof, and the remaining provisions shall be interpreted with a view toward effecting the purposes of this Guaranty. Similarly, if any provision of the Contract is invalid, prohibited or unenforceable, same shall not affect or impair the validity and enforceability of this Guaranty as to the remaining provisions of the Contract.
12. All notices, requests, demands and other communications provided for hereunder shall be in writing and mailed by registered or certified mail, postage prepaid, or telecopied or delivered to the Guarantor and the

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Owner at their respective addresses set forth above, or as to any such party, at such other address as shall be designated by such party in a written notice to the other party complying with the delivery terms set forth in this section. All such notices, requests, demands and other communications shall be deemed to have been duly given or made, in the case of telecopied or delivered notice, when telecopied or actually delivered, or, in the case of registered or certified mail, on the third business day after the day on which mailed.

13. The Guarantor represents and warrants that:

- (a) It is a corporation duly organized and validly existing under the laws of Japan;
- (b) That no authorizations, approvals, consents, orders of or registration or filing with, any court or other governmental body having jurisdiction over the Guarantor is required on the part of the Guarantor for the execution and delivery of this Guaranty and the performance of the Guarantor's obligations hereunder;
- (c) This Guaranty when executed and delivered, constitutes a valid and legally binding agreement of the Guarantor except as the enforceability of this Guaranty may be limited by the effect of any applicable bankruptcy, insolvency, reorganization, moratorium or similar laws affecting creditors rights generally and by general principles of equity; and
- (d) the Guarantor is in good standing with and is not prohibited from doing business in the United States of America by any applicable trade laws or sanctions.

14. Waiver of Immunity. The Guarantor hereby irrevocably agrees that to the extent that the Guarantor or any of its assets has or hereafter may acquire any right of immunity related to or arising from the transactions contemplated by this Guaranty, whether characterized as sovereign immunity or otherwise, from any legal proceedings, whether in the United States of America, Japan or elsewhere, to enforce or collect upon this Guaranty or any other liability or obligation of the Guarantor related to or arising from the transactions contemplated by this Guaranty, including, without limitation, immunity from service of process, immunity from jurisdiction or judgment of any court or tribunal, immunity from execution of a judgment, and immunity of any of its property from attachment prior to any entry of judgment, or from attachment in aid of execution upon a judgment, the Guarantor hereby expressly and irrevocably waives any such immunity.

15. Judgment Currency. All payments of principal, interest or fees due hereunder shall be made in United States Dollars, regardless of any law, rule, regulation or statute, whether now or hereafter in existence or in effect in any jurisdiction, which affects or purports to affect such obligations.

16. It is expressly understood that all of the rights, interests and financial obligations of the "Owner" under or arising from or connected with this Guaranty shall accrue to Consumers as to an undivided 51% interest and to Edison as to an undivided 49% interest.

IN WITNESS WHEREOF, the Guarantor has caused this Guaranty to be executed by its authorized representative as of the date first written above.

TOSHIBA CORPORATION

By: _____

Name: Norio Sasaki

Title: President and Chief Executive Officer

CCD
pg
FKC

**CONSUMERS ENERGY COMPANY
AND
THE DETROIT EDISON COMPANY**

**LUDINGTON PUMPED STORAGE PLANT
MAJOR UNIT OVERHAULS
CONFORMED CONTRACT SPECIFICATION**

**Revision 0
January 31, 2011**

SPECIFICATION 1140-003

PH-00009

CONSUMERS ENERGY COMPANY

LUDINGTON PUMPED STORAGE PLANT, UNITS No. 1-6
MAJOR UNIT OVERHAULS

REV No.	REV DATE	REVISION DESCRIPTION	ORIGINATOR	REVIEWER	QA	SECTION HEAD	PROJECT ENGINEER
A	3/28/09	Original	James L. Topper	N/A	N/A	N/A	James L. Topper
B	6/1/09	Technical Specifications Updated	James L. Topper	N/A	N/A	N/A	James L. Topper
C	7/1/09	Issued for Use	James L. Topper	William J. Axdorff	N/A	Robert T. Gilmore	James L. Topper
D	11/22/10	Draft Conformed	Chelsea M. Jahn	Craig C. Degenfelder	N/A	Robert T. Gilmore	Chelsea M. Jahn
0	1/31/11	Final Conformed	Chelsea M. Jahn	Craig C. Degenfelder	N/A	Robert T. Gilmore	Chelsea M. Jahn

SPECIFICATION 1140-003

PH-00009

CONSUMERS ENERGY COMPANY

LUDINGTON PUMPED STORAGE PLANT, UNITS No. 1-6
MAJOR UNIT OVERHAULS

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GENERAL REQUIREMENTS

- 2.4 “Overhaul” shall mean all Work associated with the Units as stipulated in the Contract Documents.
- 2.5 “Owner’s Construction Manager” shall mean the Owner’s person responsible for compliance and interpretation for the construction requirements, reporting directly to the Owner’s Project Manager.
- 2.6 “Owner’s Engineer” shall mean the organization(s), if any, that may be retained by the Owner from time-to-time to act as a third-party expert to assist the Owner in technical issues related to all matters associated with the indicated scope of Work and to provide staff-augmentation for the Owner where necessary.
- 2.7 “Owner’s Project Engineer” shall mean the Owner’s person responsible for compliance and interpretation for the technical requirements, reporting directly to the Owner’s Project Manager.

3.0 CORRESPONDENCE

- 3.1 All drawings, documents, and other correspondence pertaining to engineering and/or quality matters shall be accompanied by a transmittal page and shall be sent to the Owner’s Project Engineer. A copy of each transmittal page (only) shall be sent directly to the Owner’s Project Manager.
- 3.2 All correspondence relating to matters other than engineering and/or quality shall be sent to the Owner’s Project Manager, with one copy of each transmittal (only) sent directly to the Owner’s Project Engineer.
- 3.3 All correspondence, materials, or equipment relating to matters of construction shall be addressed to the attention of the Owner’s Construction Manager with one copy of each transmittal (only) sent directly to the Owner’s Project Manager.
- 3.4 Itemization of equipment, materials, and/or services furnished under this Conformed Contract Specification shall be in accordance with the Owner’s itemization scheme as described in the Technical Requirements, PART TWO, and/or in the Contract Documents.

4.0 GUARANTEES AND WARRANTY

- 4.1 Without limiting the generality of the Contractor’s warranty set forth in Article GC21(b), the Contractor shall expressly warrant and guaranty that the equipment, materials, and/or services provided shall perform in accordance with the requirements in PART TWO, Section 3.11, Performance Guarantee of this Conformed Contract Specification.
- 4.2 NOT USED.
- 4.3 NOT USED.
- 4.4 NOT USED.
- 4.5 NOT USED.
- 4.6 Defective Work

Without limiting any other rights and/or remedies of the Owner set forth in the Contract Documents, if, after due notice, the Contractor should refuse or neglect to correct any defects,

errors, omissions, or any other failure of the equipment to meet the requirements of this Conformed Contract Specification, the Owner may, at the Contractor's expense, correct such defects, errors, omissions, or failures. The Owner may deduct the reasonable amount due from any payment or monies due the Contractor.

4.7 Owner's Right to Operate Unsatisfactory Equipment

The Owner shall have the right to operate any and all equipment as soon as, and as long as, it is in operating condition, whether or not such equipment has been accepted as satisfactory and complete, except that this shall not be construed to permit the operation of any equipment which may be materially damaged by such operation before any required alterations or repairs have been made. All repairs or alterations required of the Contractor shall be made by the Contractor at such times as directed by the Owner. The repairs or alterations shall be made in such a manner and at such time as will cause the minimum interruptions in the use of the equipment by the Owner.

5.0 ACCESS

5.1 The Owner shall have such rights of access set forth in SECTION II – GENERAL CONDITIONS, Article GC14, and this Conformed Contract Specification.

6.0 MARKING, SHIPPING, DELIVERY, AND STORAGE

6.1 MARKING

All equipment and materials shall be permanently and legibly marked for shipment as follows, as applicable:

6.1.1 The Owner's project and plant location(s), as stated in the title of this Conformed Contract Specification, including Project Definition number (PH-00009), as stated in this Conformed Contract Specification.

6.1.2 The Owner's Contract Number.

6.1.3 The Owner's Contract Item number.

6.1.4 The Owner's System/Equipment number (Tag number).

6.1.5 Attention of the Contractor's Site Manager.

6.1.6 The Contractor's name and address, for Contractor-furnished items.

6.1.7 The Contractor's Contract Number, for Contractor-furnished items.

6.1.8 Contractor's order number.

6.1.9 The Subcontractor's and/or Supplier's name and address, where relevant.

6.1.10 Description of Contents.

6.1.11 Weight.

6.1.12 Manufacturer's recommended shelf and/or pot life.

PART TWO
TECHNICAL REQUIREMENTS

SPECIFICATION 1140-003

PH-00009

CONSUMERS ENERGY COMPANY

LUDINGTON PUMPED STORAGE PLANT, UNITS No. 1-6
MAJOR UNIT OVERHAULS

TECHNICAL REQUIREMENTS

1.0 SCOPE

PART TWO of this Conformed Contract Specification describes the Scope of Work and the specific technical requirements for the Second Round of Major Unit Overhauls at the Ludington Pumped Storage Plant. The Scope of Work includes the on-site activities associated with the disassembly, inspection, repair, and reassembly of each of the six (6) pump-turbine/motor-generator Units as is shown in a typical cross-sectional view shown in PART THREE - Attachment F; the home-office engineering support of the on-site activities, as required; and the home-office design, engineering, manufacturing, and procurement of the various components and engineered systems required by the Scope of Work for the Overhauls as described herein. This description is intended to encompass the scope of the Contractor's Work and is complementary to all other Contract Documents. It is intended to describe the various aspects of the work involved and to augment the information shown on the drawings.

The Work for the Overhauls shall consist of three categories of activities; Basic Rehabilitation Activities, Operations Improvement Modifications, and Major Power Upgrades. Each of these categories is explained in Sections 1.1, 1.2, and 1.3, respectively, herein, along with a detailed listing and description of the various specific activities that are expected to comprise each category.

Unlike the first round of Major Unit Overhauls that was conducted during the spring/summer/fall time period, this second round of Major Unit Overhauls will be conducted during the fall/winter/spring time periods of the years indicated in the list of Contract Milestones stated in SECTION III – DESCRIPTION OF WORK, and described elsewhere in the Contract Documents. The Contractor shall consider how the possibilities of strong winds, extremely cold temperatures, and/or significant snowfalls, along with any other potential impacts, could influence efficiency of the Work; therefore, the Contractor shall take the appropriate cautions and shall utilize the appropriate means and facilities to conduct the Work. The Contractor shall also consider any opportunities to optimize the Work afforded by the scheduling of all six (6) Units on successive years, one-Unit-per-year.

The time period beginning with the Contract Award through the last Unit Final Acceptance, and ultimately Final Completion will span approximately ten (10) years; therefore, the Contractor shall maintain an adequate administrative, management, technical, and craft labor staff for the duration of the Work. It is expected that the components, items of equipment, materials, and services provided by the Contractor, as described herein, shall enable the overhauled and upgraded Plant to operate efficiently and reliably for the required service life with only minimal routine maintenance, such as can be done during the planned periodic outages described herein.

As a result of the complexity and duration of the Overhauls, it is the intent of the Owner that the Work shall be planned, managed, executed, and documented by a very controlled process. The Contractor shall be required to develop and utilize a number of project controls and process control documents throughout the evolution of the Work; these documents will eventually become the Owner's record of the planning, execution, and results of the Work and may become a part of the Owner's interactions with the various regulatory agencies concerning the Work.

The activities described for the Work for the Unit overhauls acknowledge that, in addition to the Basic Rehabilitation Activities, both Operations Improvement Modifications and Major Power Upgrades will also be performed. A detailed description of what has been included in the Work for the overhauls is provided in Sections 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, and 1.7 herein. The Contractor shall assume that all of the activities indicated therein are “in-scope” and will be implemented for each Unit unless individual Unit inspections reveal that certain work is not required. Any such activities that are deemed to not be required will be removed from the Scope of Work for the Contractor and the associated costs will be deducted from the Contractor’s Contract Price at that time.

1.1 BASIC REHABILITATION ACTIVITIES

The Contractor shall perform those activities needed to return the Ludington Pumped Storage Plant to an “as new” condition. This includes those activities that must be conducted as a matter of course given the extent of a Major Unit Overhaul, those activities that would be necessary in order to achieve the performance and longevity requirements described herein, and those activities that the Owner’s and/or the Contractor’s experience has indicated could be problematic if not assessed, and possibly implemented, given the opportunity afforded by the Work. These activities shall take in account the overall material condition of the Units, its age, the information provided by the Owner to the Contractor concerning the manner in which they have been operated in the past, and the manner in which they are expected to be operated in the future. These activities shall include, but are not necessarily limited to, the following:

1.1.1 Motor-Generator

The Contractor shall disassemble, clean, inspect, refurbish, measure and record “As-found” and “As-left” data, reassemble, align, commission, and test each of the six (6) motor-generators, including the Starting Motors on the two “Lead” Units, as described herein and in the following Technical Specifications:

1.1.1.1 The scope of Work for the disassembly, inspection, reassembly, and alignment of the motor-generators, including the Starting Motors on the two Lead Units, is described in Technical Specification ME-11450.3, UNIT DISASSEMBLY, INSPECTION, AND REASSEMBLY.

1.1.1.2 The Contractor shall refurbish the motor-generators, including furnishing and installing new core iron using either the existing stator frames, with or without modifications, or new stator frames, and the reconstruction and rewinding of the motor-generator stators to achieve the performance and service life guarantee parameters as stipulated herein for both the pump and generate modes. New windings shall include condition monitoring devices that will provide information to the new Condition Monitoring and Machinery Health System as described in Section 1.5.3.1 herein. The design and execution of the refurbishment of the motor-generators shall include the reconstruction and rewinding of the motor-generator rotors to achieve the performance and service life guarantee parameters as stipulated herein for both the pump and generate modes. The scope of Work for the refurbishment of the motor-generators, including the refurbishment of the Starting Motors on the two Lead Units, is described in Technical Specification EE-30200.1, MOTOR-GENERATOR REFURBISHMENT.

1.1.1.3 The scope of Work for the refurbishment of the Liquid Rheostats on the two Lead Units is described in Technical Specification EE-34410.1, LIQUID RHEOSTAT REFURBISHMENT.

1.1.2 Pump-Turbine

1.2 OPERATIONS IMPROVEMENT MODIFICATIONS

The Contractor shall perform those Operations Improvement Modifications that are indicated herein. The purpose of these activities is to achieve measurable gains in the Availability, Maintainability, and Reliability of the Plant through the use of upgraded materials and/or components on a replacement basis and/or to replace existing equipment and/or systems with new equipment and/or systems where such replacement has been determined to result in significant economic benefits. The following Operations Improvement Modifications will be included in the Base Scope of Work for the Overhauls:

1.2.1 Motor-Generator

1.2.1.1 Motor-Generator Load-break/Phase-reversing Switches

The Contractor shall remove the six (6) existing five-pole Motor-Generator Load-break/Phase-reversing Switches on Units No. 1, 2, 3, 4, 5, and 6 (116, 216, 316, 416, 516, and 616, respectively). The Contractor shall furnish and install six (6) new Load-break/Phase-reversing switches, one on each of the six (6) Units, to replace the existing Load-break, Phase-reversing Switches. The quantity of components to be furnished will include one (1) complete internal working assembly of each type of switch utilized as spare parts for all six (6) Units. To the greatest extent possible, all devices furnished to replace the existing equipment shall be identical, except with respect to physical location and/or orientation if required by the application as described in this Conformed Contract Specification. Spare parts, also as described in this Conformed Contract Specification shall be optimized based upon the number of different devices to be furnished. All replacement switches shall be installed indoors; installation outside of the Plant is unacceptable. The scope of Work shall include any required modifications to the Iso-Phase bus work, supporting structures, maintenance structures, and/or access platforms and walkways.

1.2.1.2 Unit No. 1 Starting Motor Load-break/Phase-reversing Switch

The Contractor shall remove the one (1) existing five-pole Starting Motor Load-break/Phase-reversing Switch on Unit No. 1 (115). The Contractor shall furnish and install one (1) new Load-break/Phase-reversing switch to replace the existing Load break/Phase-reversing switch on Unit No. 1. The quantity of components to be furnished will include one complete internal working assembly of each type of switch utilized as spare parts. All replacement switches shall be installed indoors; installation outside of the Plant is unacceptable. The scope of Work shall include any required modifications to the Iso-Phase bus work, supporting structures, maintenance structures, and/or access platforms and walkways.

1.2.1.3 Unit No. 6 Starting Motor Load-break Switch

The Contractor shall remove the one (1) existing three-pole Starting Motor Load-break Switch on Unit No. 6 (615). The Contractor shall furnish and install one (1) new Load-break Switch to replace the existing Load-break Switch on Unit No. 6. The quantity of components to be furnished will include one complete internal working assembly of each type of switch utilized as spare parts. All replacement switches shall be installed indoors; installation outside of the Plant is unacceptable. The scope of Work shall include any required modifications to the Iso-Phase bus work, supporting structures, maintenance structures, and/or access platforms and walkways.

reassembly of each Unit. Quantity of materials to be furnished shall include one (1) complete set of bushings for the wicket gate links, one (1) complete set of bushings for the servomotor links, and one (1) complete set of bushings for the gate operating ring for each of the six (6) Units to be overhauled, and one (1) complete set of bushings for the wicket gate links, one (1) complete set of bushings for the servomotor links, and one (1) complete set of bushings for the gate operating ring as spare parts for all six (6) Units, to be furnished with the materials for the first Unit to be overhauled.

1.2.2.2 Spiral Case/Stay Vane Modifications

If modifications to the spiral cases and/or stay vanes are necessary in order to optimize the overall hydraulic efficiency of the stay vane/wicket gate/pump-turbine runner system in both the pump and generate modes in accordance with the Contractor's final hydraulic design, the Contractor shall modify the existing spiral cases and/or stay vanes accordingly. Modifications shall be based upon modeling performed in conjunction with the optimization of the upgraded pump-turbine runners, as described in this Conformed Contract Specification. Quantity of materials to be furnished shall include two (2) complete sets of profile additions and one (1) complete set of alignment templates to be furnished with the materials for the first Unit to be overhauled, and one (1) complete set of profile additions as a part of the materials to be furnished for each of other five (5) Units to be overhauled.

1.3 MAJOR POWER UPGRADES

The Contractor shall perform those Major Power Upgrades that are indicated herein. The purpose of these activities is to achieve significant gains in Unit efficiency and capability, in both the pumping and generating modes, through the use of modern modeling, engineering, design, and manufacturing technologies in support of the replacement of major Unit components as a part of the Overhauls. The following Major Power Upgrades is included in the Work for the overhauls:

1.3.1 Pump-Turbine Runners

The Contractor shall design, fabricate, and install six (6) new pump-turbine runners to replace the existing pump-turbine runners as a part of each Unit overhaul. The new pump-turbine runners shall be designed to achieve the performance and service life guarantee parameters as stipulated herein for both the pump and generate modes. New connecting bolts for the main shafts shall be included with each of the six (6) replacement pump-turbine runners, including one (1) set of bolts for one shaft as spares, to be furnished with the materials for the first Unit to be overhauled.

1.3.2 Main Shafts

The Contractor represents that it has evaluated the existing main shaft design and determined that the design is adequate for the performance and longevity required for the applicable Unit, in its upgraded condition. Within thirty (30) days of Contract Award, the Contractor shall issue to the Owner such evaluation in final form confirming such determination.

1.3.3 Training

Contractor will provide two training programs (lead and non-lead Units) each consisting of three (3) separate classes for ten (10) people, with each class lasting an eight-hour shift. The three (3) classes shall be conducted on three consecutive days (e.g., Tuesday, Wednesday, and Thursday). All three classes will be held at the Plant, or at a location

1.5.3.12 Site Electrical/Instrument and Control Work

The Owner will integrate the new Contractor-installed equipment into the existing Plant Control and into the new Data Acquisition System (DAS). The Owner will be responsible for the disconnection and reconnection of existing, monitoring, control, power circuit and the associated pipes, raceways on Contractor-removed and newly installed equipment, and to allow the Contractor access to its Work.

1.5.3.13 Snow/Ice Removal

The Owner will be responsible for the snow/ice removal for general access within the Jobsite. Any other snow/ice removal required by the Contractor shall be the Contractor's responsibility.

1.5.4 Most of these modifications are not expected to conflict with any of the activities that will be undertaken by the Contractor. Implementation of these modifications will be coordinated with the Contractor.

1.5.5 NOT USED.

1.5.6 The Owner will perform all Jobsite Non-Destructive Examination (NDE), as defined in this Conformed Contract Specification. The Contractor is responsible for identifying and notifying the Owner of all NDE that is needed in the Work. At the Owner's option, the Contractor shall perform NDE in lieu of the Owner at an additional cost, per an approved PCN.

1.5.7 The Owner will supply certain specific piecework materials, as identified in PART THREE - Attachment K. At the Owner's option, the Contractor shall supply any or all of such piecework materials at an additional cost, per an approved PCN.

1.6 CONTRACTOR PROVIDED TEMPORARY FACILITIES

The Contractor will remove all of its temporary facilities from the Jobsite at the conclusion of the Overhauls. Upon the Owner's request, the Contractor may turnover to the Owner, in "like-new" condition at Final Completion, some or all of these temporary facilities (excluding Contractor leased facilities). Should the Owner wish to take possession of some or all of these temporary facilities, the parties will mutually agree upon the compensation, if any, to be paid by the Owner to the Contractor for such facilities.

1.7 SERVICE LIFE

1.7.1 It is the parties' understanding that the Work performed for each of the Units shall be designed and otherwise performed in such manner as will allow the Units to be capable of operating according to Contractor's recommended operation and maintenance manuals provided pursuant to this Contract without the need of another Overhaul, as described herein, for at least thirty (30) years from Unit Final Acceptance of the applicable Unit. It is also the Owner's expectation that this service life will require only planned periodic outages based upon a three (3)-year cycle for each Unit during the time between the Overhauls instead of the current two (2)-year cycle for each Unit. Notwithstanding the foregoing, it is understood that the thirty (30) year service life is not intended to expand the length of the Warranty Period specified in SECTION II – GENERAL CONDITIONS, GC21(b).

- 1.7.2 The Contractor shall list, and shall provide a conservative life estimate for, all components, items of equipment, and systems that would be critical to attaining the required efficiency, reliability, service life, and maintenance intervals described herein. In addition, the Contractor shall provide a detailed description, including the expected cost, scope, and level of effort, of the required maintenance to be performed for such components, items of equipment, and systems during the routine planned periodic outages, recognizing that the cycle for these outages will be increased from two (2)-years to three (3)-years as described in this Conformed Contract Specification.
- 1.7.3 The Contractor shall base its design for all of its proposed components, items of equipment, systems, and associated services such that all required maintenance, for both mechanical and electrical items, shall be based upon the following criteria:
 - 1.7.3.1 Routine planned minor preventative maintenance, requiring only adjustment, inspection, and lubrication once every year during the annual Reservoir Outage or any other outage of approximately one (1) week duration.
 - 1.7.3.2 More involved planned preventative maintenance, requiring only adjustment, inspection, lubrication, and minimal disassembly/reassembly, once every three (3) years during the twenty (20) Business Days planned Unit periodic outages.
 - 1.7.3.3 Major planned preventative maintenance, requiring adjustment, inspection, lubrication, and major disassembly/reassembly, once every three periodic outages as a minimum (e.g., a ten (10) year minimum expectation).

2.0 APPLICABLE DOCUMENTS

2.1 DOCUMENTATION FURNISHED AS A PART OF THE REQUEST FOR PROPOSAL

The following information represents everything that the Owner made available to the Contractor:

- 2.1.1 Hitachi Instruction Manuals (TS 1122013) for the pump-turbine:
 - 2.1.1.1 Book TS 1122013-1E Instructions for Election of Draft Tube Liner .
 - 2.1.1.2 Book TS 1122013-2E Instructions for Installation of Spiral Case, etc.
 - 2.1.1.3 Book TS 1122013-4E Instructions for Pump-Turbine.
 - 2.1.1.4 Book TS 1122013-5E Instructions--Installation of Generator-Motor.
 - 2.1.1.5 Book TS 1122013-6E Instructions--Exciter Set.
 - 2.1.1.6 Book TS 1122013-7E Instructions--Operation and Maintenance of Pump-Turbine.
 - 2.1.1.7 Book TS 1122013-8E Instructions--Construction of Pump-Turbine.
 - 2.1.1.8 Book TS 1122013-9E Instructions--Operation and Maintenance of Generator-Motor.
- 2.1.2 Hitachi Instruction Manuals for the motor-generator:
 - 2.1.2.1 Book GM 1122013-1 Instruction of Electrical Equipment.

2.1.2.2 Book GM 1122013-2 Instruction of Electrical Equipment (Liquid Rheostat and Control Panel).

2.1.2.3 Book GM 1122013-2 (A) Instructions for Liquid Rheostat and Control Panel.

2.1.2.4 Book GM 1122013-3 Instruction of Automatic Voltage Regulator

2.1.3 Disassembly/Reassembly Instructions from the First Unit No. 5 Major Unit Overhaul

2.1.3.1 Generator

2.1.3.2 Turbine

2.2 CODES AND STANDARDS

The codes and standards applicable to the equipment described herein are described in the Technical Specifications listed below.

2.3 TECHNICAL SPECIFICATIONS

The following Technical Specifications detail the specific requirements to be complied with by the Contractor for the various components that make up the items to be furnished under this Conformed Contract Specification:

2.3.1 CA-05901.1, COATINGS FOR NEW OR MAINTENANCE APPLICATIONS

2.3.2 CA-05901.2, COATINGS FOR IMMERSED APPLICATIONS

2.3.3 CA-05901.3, COATINGS FOR NEW OR MAINTENANCE APPLICATIONS FOR DAMP, WET, OR CORROSIVE ENVIRONMENTS

2.3.4 EE-05110.1, ISO-PHASE BUS MODIFICATIONS

2.3.5 EE-30110.1, STATIC EXCITATION SYSTEM

2.3.6 EE-30200.1, MOTOR-GENERATOR REFURBISHMENT

2.3.7 EE-31102.1, MOTOR-GENERATOR CIRCUIT BREAKERS

2.3.8 EE-34410.1, LIQUID RHEOSTAT REFURBISHMENT

2.3.9 ME-11450.1, COMPETITIVE MODEL TESTING RESULTS

2.3.10 ME-11450.2, DESIGN AND MANUFACTURE OF PUMP-TURBINE RUNNERS

2.3.11 ME-11450.3, UNIT DISASSEMBLY, INSPECTION, AND REASSEMBLY

2.3.12 ME-11450.4, PUMP-TURBINE REFURBISHMENT

2.4 ADDITIONAL APPLICABLE DOCUMENTATIONS

2.4.1 Any documents referenced herein as Codes and Standards and/or any documents referenced by the applicable Codes and Standards and/or by the documents listed in this Section.

- 2.4.2 Any drawings and/or documents listed in and/or referenced by the Drawing List, PART THREE of this Conformed Contract Specification - Attachment G.

2.5 ADDITIONAL DOCUMENT FURNISHED BY THE OWNER

The Drawing List, PART THREE – ATTACHMENT G, of this Conformed Contract Specification, includes a list of all of the drawings for the Plant. These will be made available to the Contractor upon request.

2.6 ADDITIONAL INFORMATION

- 2.6.1 The Contractor shall provide a list of all of the information that it will need to conduct the Overhauls. Upon Contract Award, the Owner will make available to the Contractor any and all available information that the Owner has in its possession pertaining to the Work for the Overhauls. It shall be the responsibility of the Contractor to request, in writing, any additional information that it will need to complete the Work for the overhauls within the constraints of the agreed-upon schedule and to the satisfaction of the Owner in terms of thoroughness and quality. The Contractor acknowledges that some of the information that it may request from the Owner may not be readily available and/or may be impossible to obtain by the Owner. These limitations shall be discussed between the Contractor and Owner, and will not affect this Contract price.

- 2.6.2 The Contractor may choose to conduct additional site visits to gather additional information during the Engineering, Manufacturing, and Procurement phases of Work and/or the Outage Planning and Site Infrastructure phases of the overhauls, the Owner will make available to the Contractor one or more Units, based upon the Owner's schedule for routine Unit Periodic Outages as shown in PART THREE - Attachment H, for examinations, inspection, and tests. The Owner will also make available to the Contractor one or more Units, subject to the Plant's need to support system generation requirements, for operational testing. A description of all such Contractor testing shall be submitted to the Owner in a timely manner. Any testing that the Contractor proposes to conduct shall be consistent with the following requirements. The Contractor shall provide a copy of all data collected from such testing to the Owner, along with the Contractor's interpretation of the data, a description of how it will be used in its design of the replacement pump-turbine runners and other associated equipment, and what effects it will have upon these designs, for the Owner's records, no later than the respective Design Review Meeting for the affected equipment. The Contractor may also make use of the regularly-scheduled Unit period outages, if it so chooses, to gain information in advance of future Unit overhaul outages that would not otherwise be available to the Contractor. The Contractor will be required to submit Field Notes from each site visit. The Field Notes will summarize the proceedings of the visit and list any Action Items and/or Open Items. The Contractor will be required to submit the Field Notes within one week from the date on which the visit took place. Upon completion of the Engineering, Manufacturing, and Procurement phase and/or the Outage Planning and Site Infrastructure phase, as applicable, the Contractor will be required to produce a final version of the list of Action Items/Open items and show that all of the items have been resolved to the Owner's satisfaction and shall update the Master Action Item/Open Item List accordingly.

3.0 DESIGN AND PERFORMANCE REQUIREMENTS

The purpose of the Work is to return the Plant to as nearly an as new condition as possible, recognizing that, by the time of the start of the Work, the Plant will have been in operation for 40 years. The Work will also include modifications to improve the availability, reliability, maintainability, and the overall operation of the Plant, as well as modifications to upgrade the generating and pumping capabilities of the Plant. The Contractor's knowledge and experience with pumped-storage hydroelectric plants in general and with

plants designed by EBASCO and utilizing Hitachi pump-turbines and motor-generators in particular will be critical for this purpose. The Overhauls will also be used in support of the preparation of the relicensing documentation.

The physical bounds of the Work will include everything between the upper end of the penstocks, excluding the intake structure and the upper reservoir, and the lower end of the draft tubes, excluding the tail race and the lower reservoir (except for those modifications that would affect the hydraulic characteristics of the Units, especially any increase in the Units' hydraulic capacity). The Scope of Work for the Contractor will include all of the engineering, manufacturing, procurement, transportation, and field work necessary for a complete overhaul of the pump-turbines, motor-generators (including the starting motors on the two "Lead" Units), and the major electrical and mechanical equipment. It will include the primary mechanical (pump-turbine runner) and electrical (motor-generator, excitation, and voltage regulation) systems. It will also include the mechanical (thrust bearing, thrust relief, and cooling water) and electrical (high voltage circuit breakers) support systems. It will not include the basic mechanical (anti-vibration air; depression air, heating; ventilating, and air conditioning; potable water; sewage; plant drains; etc.) and the basic electrical (lighting, 4160VAC, 480VAC, 120VAC, or 125VDC) systems, nor will it include any soils aspects of the area surrounding the powerhouse.

It is the Owner's expectation that, following the Final Completion, the Units, in its rehabilitated and upgraded condition, shall be capable of operating efficiently and reliably with only one more (the third) round of planned Major Unit Overhauls between the end of the current license (year 2019) and the end of the new license in year 2069 (for a fifty (50)-year new license period); i.e., a minimum thirty (30)-year service life would be required and with only routine planned periodic outages between the planned rounds (the upcoming second and the future third) of Major Unit Overhauls. In addition, as a result of the overhaul and upgrade, it is the Owner's expectation that the number of future periodic outages could be reduced from three-per-year (a two (2)-year cycle) to two (2)-per-year (a three (3)-year cycle). The Contractor shall list, and shall provide a conservative life estimate for, all components, items of equipment, and systems that would be critical to attaining the required efficiency, reliability, and longevity. In addition, the Contractor shall provide a detailed description, including the expected scope and level of effort, of the required maintenance to be performed for such components, items of equipment, and systems during the routine planned periodic outages, recognizing that the cycle for these outages will be increased from two-years to three-years, as described herein. The Contractor shall implement the Overhauls in accordance while assuring the expected performance and service life guarantees and materials and workmanship warranties provided that the Owner operates and maintains the rehabilitated and upgraded Units according to this information.

In order to achieve these expectations, the Owner intends to have significant involvement in all aspects of the design, engineering, manufacturing, procurement, examination, inspections, tests, and installation of the various components, items of equipment, materials, and services to be provided by the Contractor as described in this Conformed Contract Specification. This involvement shall consist of the detailed review of the various analyses, calculations, design documents, and drawings that the Contractor will prepare as described in the General Requirements, PART ONE of this Conformed Contract Specification; the Technical Requirements as described herein; the various Technical Specifications, PART TWO of this Conformed Contract Specification; and the Quality Assurance/Quality Control Requirements and the Document Submittal Requirements, PART THREE of this Conformed Contract Specification. It will include the monitoring of the Contractor's progress by means of Weekly Conference Calls, Milestone Meetings, Monthly Progress Reports, and regular schedule updates overall as described in the General Requirements, PART ONE of this Conformed Contract Specification; the Technical Requirements as described herein; and the various Technical Specifications, PART TWO of this Conformed Contract Specification. Lastly, it will include monitoring of the completion of significant technical evaluations during the Engineering, Manufacturing, and Procurement phase as described in the General Requirements, PART ONE of this Conformed Contract Specification; the Technical Requirements as described herein and/or in the various Technical Specifications, PART TWO of this Conformed Contract Specification; and the Quality Assurance/Quality Control Requirements and the Document Submittal Requirements, PART THREE of this Conformed Contract Specification.

3.1 GENERAL

- 3.1.1 The Contractor shall design, engineer, fabricate, shop test, and deliver and/or provide the equipment and services described in this Conformed Contract Specification. The Contractor's scope of Work shall include, but not be limited to, some or all of the items of equipment, modifications, evaluations, analyses, or systems, listed herein, so as to achieve the specified guaranteed parameters of scope, schedule, cost, and performance.
- 3.1.2 The Contractor's scope of Work shall include a reasonable review of the Plant/Units operational data, test data, and operational history. The design shall include an analysis of existing structures and/or systems on the Plant/Units which may be impacted by the modification. The analyses shall include, but shall not be limited to, those analyses described herein and in the Technical Specifications, PART TWO of this Conformed Contract Specification. All proposed designs shall be demonstrated as proven technology through prior successful installation at Plant/Units of similar manufacture, design, configuration, capacity, head, and speed.
- 3.1.3 The Contractor's engineering shall include preparation of all Documentation listed in this Conformed Contract Specification. This engineering work shall be done in accordance with applicable Codes and Standards such that, when the equipment is installed, it will conform to all federal and state regulations and ordinances in effect at the time of Contract Award.
- 3.1.4 The equipment specified herein shall be used to replace and/or modify the existing equipment as described herein. The Contractor's engineering shall match and interface with the existing equipment and structures. Material standards for the equipment are best defined by matching what is adjoining and already in place unless the Contractor can demonstrate that alternate materials would better support the performance, longevity, and maintenance expectations stated herein. Applicable codes, including those for logic and safety interlocks, are defined as those compatible with the existing equipment and controls with updating when possible.
- 3.1.5 All safety-related hardware shall be listed in the Factory Mutual (FM) Approval Guide or, if not listed therein, shall be Underwriters Laboratories (UL) listed. Equipment and system design shall be in accordance with the rules and regulations of the Michigan Occupational Safety and Health Act (MIOSHA).
- 3.1.6 All pressure boundary components shall be constructed in accordance with the Codes and Standards listed in Technical Specifications referenced herein.
- 3.1.7 The Contractor shall furnish a complete copy of this Conformed Contract Specification to each Subcontractor that will be used for this Contract. The Contractor shall also make available to each Subcontractor all relevant Contractor information, including correspondence from the Owner, germane to the product, component, device, or service being furnished by each Subcontractor. In addition, the Contractor shall provide the Owner, as part of Contractor's PRELIMINARY documentation, with all such documentation, including Subcontractor concurrence/nonconcurrence documents. Should the Contractor and any Subcontractor disagree about the applicability of that Subcontractor's contribution, the Owner shall, at no cost to them, make the final decision and thereby resolve the issue.
- 3.1.8 The Contractor shall document that all Subcontractors concur with the use, placement, orientation, and specification of its systems or items of equipment as used to comprise the total system as specified herein prior to the issuance of any FINAL documentation.

3.3.5 Dimensions

The Contractor shall obtain and verify any and all needed dimensions from the existing Units needed for the Work. The Units are available for external inspection and field dimensioning at any time. The Units will be available for internal inspection and field dimensioning during selected outages. The Contractor shall coordinate with the Owner's Construction Manager for access to the Plant and/or Units for all inspections.

3.4 CURRENT OPERATING CONDITIONS

3.4.1 General Information

A typical Unit duty cycle can be found in Design Data Sheet DDS-3 and in Section 3.4 herein.

3.4.2 Planned Unit Outages

For planning purposes, the schedule for the Work, as well as the schedule for the regularly-scheduled Unit periodic outages for the time period from year 2009 through 2019, during which the Work is scheduled to take place, has been included in this Conformed Contract Specification. This schedule represents what is currently planned; if the schedule (as shown in PART THREE – Attachment E) has to change for any reason, especially if it affects the scheduling of the Unit overhauls in any way, the Contractor will be advised as soon as possible.

3.4.2.1 Major Unit Overhaul Outages

The Contract Milestones for the first Unit to be overhauled as a part of the Work are shown in SECTION III – DESCRIPTION OF WORK and discussed in this Conformed Contract Specification.

3.4.2.2 Periodic Outages

Each Unit is routinely scheduled for a periodic outage every two years; i.e., three periodic outages are scheduled for each year. Each periodic outage typically lasts one month, more or less, depending upon the scope of Work for each outage. In addition, there is typically a "reservoir outage" that typically lasts one week and which coincides with the start of the fall periodic outage. The current schedule for these planned outages is included in this Conformed Contract Specification (PART THREE - Attachment H).

3.4.3 Typical Unit Performance

3.4.3.1 Motor-Generator

Specific performance information for the existing motor-generators and its support systems, as well as the Owner's estimates of the theoretical performance of the upgraded equipment, can be found in Design Data Sheet DDS-1 herein.

3.4.3.2 Pump-Turbine

Specific performance information for the existing pump-turbines and its support systems, as well as the Owner's estimates of the theoretical performance of the upgraded equipment, can be found in Design Data Sheet DDS-2 herein.

3.5 CURRENT CONDITION ASSESSMENT

Conformed Contract Specification; or when through no fault of Contractor, the performance guarantee tests are not conducted within the time period stipulated in Section 5.4 herein.

3.10.4.2 In the event that the equipment fails to simultaneously meet all of the performance guarantee conditions during the acceptance testing, the Contractor shall promptly, at its sole cost, correct such failure by repair or replacement of the equipment so that the performance guarantees will be attained prior to Unit Interim Acceptance.

3.10.5 Criteria for Pre-Outage Baseline Test Results

The Owner intends on performing testing, but not limited to, those described in Section 5.2 herein. If the Contractor requests that any pre-outage tests be conducted to verify the condition and performance of the Unit prior to the installation of the Contractor's equipment, the costs of those tests shall be borne by the Contractor. For each such test, the Contractor shall develop a test protocol based upon the Owner's Baseline test protocol and submit it to the Owner for review and comment prior to implementation. All such pre-outage tests shall be conducted by the Owner, but the Contractor may, at no cost to the Owner, provide technical representatives to witness the pre-outage tests. Should it be determined that there has been a significant change in Unit condition or performance, the Contractor and the Owner shall mutually agree upon any resultant revisions of the performance guarantee.

3.10.6 Continuity, Obsolescence, and Updating

3.10.6.1 If at any time during the Work, the Contractor, or any of the Contractor's Subcontractors declares obsolete, updates, modifies, or in any way improves any item proposed to be supplied or utilized or actually supplied or utilized, all such items proposed or actually supplied or utilized shall be similarly updated, either in part or as a direct replacement such that all such items are identical at the conclusion of the Work.

3.10.6.2 The requirements of Section 8.9 of the General Requirements, PART ONE, and this Conformed Contract Specification shall apply.

3.11 PERFORMANCE GUARANTEES FOR OVERHAULS

3.11.1 Motor-Generator

3.11.1.1 Stator Reconstruction and Rewinding

Performance guarantee requirements disassembly, inspection, reassembly, and alignment of the motor-generators, including the Starting Motors on the two Lead Units, are described in Technical Specification ME-11450.3, UNIT DISASSEMBLY, INSPECTION, AND REASSEMBLY. Design requirements for the refurbishment of the motor-generators, including the refurbishment of the Starting Motors on the two (2) Lead Units, are described in Technical Specification EE-30200.1, MOTOR-GENERATOR REFURBISHMENT.

3.11.1.2 Rotor Reconstruction and Rewinding

Performance guarantee requirements disassembly, inspection, reassembly, and alignment of the motor-generators, including the Starting Motors on the two Lead Units, are described in Technical Specification ME-11450.3, UNIT

such alternatives; however, no substitutions shall be made without the prior written approval of the Owner.

- 4.3.2 The Contractor shall provide descriptions of the materials being proposed (ASME/ASTM designation and grade). If the proposed products are manufactured using other than standard specifications of the authorities indicated herein, then a copy of the applicable portions of those standards shall be furnished by the Contractor. The furnished standards shall be marked to indicate for which standard they are being substituted. Appropriate information and a descriptive narrative, if applicable, shall be furnished to explain how the proposed standard is a suitable substitute for the specified standard. The substituted standards will be evaluated to determine if they are acceptable substitutes for the specified standards. This deviation from this Conformed Contract Specification shall be noted by the Contractor.

4.4 FABRICATION

Fabrication requirements are described in the various Technical Specifications referenced herein. The Contractor shall take into consideration the Owner's experience in operating, maintaining, and performing modifications at the Jobsite and shall reasonably incorporate as part of the fabrication process all of the Owner's preferences and requirements for handling and installing the Contractor's components, items of equipment, and systems. All such Owner preferences and/or requirements shall be furnished to the Contractor during the Owner's review of the Contractor's PRELIMINARY design documentation.

4.5 ASSEMBLY

Each piece of equipment furnished under this Contract shall be shop assembled and fitted in the largest pieces feasible to be shipped, and shall be suitably match-marked to facilitate field erection. Lifting lugs shall be provided where applicable for field erection. In determining the largest size criteria, the Contractor shall take into consideration the existing material movement paths, material movement mechanisms, and existing interferences at the Jobsite and in and around the Unit. Should it become necessary for the Contractor to dismantle its equipment to transport from the Contractor's point of receipt/storage to the construction Jobsite and then to reassemble it as part of the installation process, all costs of dismantling and reassembly shall be borne by the Contractor.

4.6 WELDING

All welding fabrication including preheat and post-weld heat treatment shall be performed in accordance with qualified procedures and by welders qualified to Section IX of the ASME Code or AWS D1.1, as applicable. Welding procedure specifications and performance qualification data shall be submitted to the Owner for review and comment prior to use.

4.7 MANUFACTURING REQUIREMENTS FOR THE OVERHAULS

Manufacturing requirements for the Overhauls are described in the following Technical Specifications:

4.7.1 Motor-Generator

4.7.1.1 Stator Reconstruction and Rewinding

Manufacturing requirements for the disassembly, inspection, reassembly, and alignment of the motor-generators, including the Starting Motors on the two Lead Units, are described in Technical Specification ME-11450.3, UNIT

TECHNICAL SPECIFICATION EE-05110.1

ISOLATED PHASE BUS

1.0 SCOPE

- 1.1 This Technical Specification covers the design, manufacture, shop testing, and installation of Isolated Phase Bus (IPB) equipment for use in a pumped-storage hydroelectric plant. It is not the intent of this document to specify all details of design and construction. It shall be the responsibility of the Contractor to ensure that the equipment has been designed, fabricated, and tested in accordance with all Codes, Standards, and Governmental Regulations applicable to the specified service as listed in this Technical Specification.
- 1.2 This Technical Specification covers all Work, including but not limited to, detailed engineering design, analysis, procurement, delivery, installation, wiring, testing and start-up of the following:
 - 1.2.1 New three-pole Motor Operated Disconnect Switches (MODS) for Units 2 through 5.
 - 1.2.2 New three-pole MODS for the starting bus.
 - 1.2.3 New, upgraded, current transformers (CT).
 - 1.2.4 New generator step-up transformer (GSU) bushing enclosure boots.
 - 1.2.5 Modifications to the existing segregated IPB at the following locations:
 - 1.2.5.1 The generator circuit breakers.
 - 1.2.5.2 The new three-pole MODS for Units 2 through 5.
 - 1.2.5.3 The new three-pole MODS for the starting bus.
 - 1.2.5.4 The connection of the new static excitation PPTs.
 - 1.2.5.5 The replacement current transformers.
- 1.3 The Contractor shall furnish competent supervision, skilled laborers, and technicians to direct and perform the Work. While performing Work under this Technical Specification, the Contractor shall identify and adhere to all applicable codes, including the codes and standards identified in this Technical Specification. The Contractor shall be an expert in the performance of this type of Work and will use his expertise to perform the scope of Work that is generically defined in this Technical Specification and the Owner's supplied Original Equipment Manufacturer's (OEM) documents. The Owner will make available any and all data that it has collected over the years with regard to the equipment and prior, similar outages.
- 1.4 The Owner will supply access to their records, including previous similar work performed on these Units and the OEM documents including drawings and manuals. It is anticipated that the tolerances, surface finishes, procedures, etc. defined in the OEM referenced material shall be maintained as a minimum. Should the Contractor want to deviate from these documents, a written request to the Owner is required. The request

- 3.2.2.2 Unit 3: Three Pole Starting Bus Non-Load Break Switch No. 315.
- 3.2.2.3 Unit 4: Three Pole Starting Bus Non-Load Break Switch No. 415.
- 3.2.2.4 Unit 5: Three Pole Starting Bus Non-Load Break Switch No. 515.
- 3.2.2.5 Starting Bus: Three Pole Starting Bus Non-Load Break Switch No. 105
- 3.2.3 Modifications to existing IPB connections will be required with the replacement of the GCBs. The GCB numbering sequence is as follows:
 - 3.2.3.1 Unit 1: Five Pole Load Break Phase Reversing Switch No. 116.
 - 3.2.3.2 Unit 1: Five Pole Starting Motor Load Break Phase Reversing Switch No. 115.
 - 3.2.3.3 Unit 2: Five Pole Load Break Phase Reversing Switch No. 216.
 - 3.2.3.4 Unit 3: Five Pole Load Break Phase Reversing Switch No. 316.
 - 3.2.3.5 Unit 4: Five Pole Load Break Phase Reversing Switch No. 416.
 - 3.2.3.6 Unit 5: Five Pole Load Break Phase Reversing Switch No. 516.
 - 3.2.3.7 Unit 6: Five Pole Load Break Phase Reversing Switch No. 616.
 - 3.2.3.8 Unit 6: Three Pole Starting Motor Load Break Switch No. 615.
- 3.2.4 The Contractor shall perform any necessary analysis and engineering calculations to design the equipment to meet the requirements herein. Such calculations and analysis, with assumptions, shall be included in design submittals by the Contractor to the Owner. The analysis shall include at minimum short circuit force evaluation, thermal analysis of the bus and enclosure, loading conditions such as vertical load, electromagnetic forces and base reaction, shear, vertical loads and moments in order to facilitate structural review for modifications. Structural steel shall be designed and fabricated in accordance with the applicable AISC specifications for the design fabrication and erection of structural steel for buildings.
- 3.2.5 Every Unit must be identical to the last Unit overhauled once the overhauls are complete. Any technical change or other evolution of the components that occur during the overhauls must be updated on all Units at the end of the overhaul of the sixth Unit. It is the Contractor's responsibility to follow and maintain record of any changes that occur as each Unit is completed. It is the Contractor's responsibility to compile those changes into a chronological format for review by the Owner and use a checklist to ensure total compatibility. Changes required to ensure compatibility shall be borne by the Contractor.
- 3.2.6 Busses
 - 3.2.6.1 All bus and tap connections shall be of high conductivity aluminum.
 - 3.2.6.2 Bus duct conductor and enclosure temperature rises shall be in accordance with ANSI C37.23, Table 1 for silver-surfaced bus joints

TECHNICAL SPECIFICATION EE-30200.1

GENERATOR-MOTOR REFURBISHMENT

2.22 INSTRUMENT SOCIETY OF AMERICA (ISA), STANDARDS AND PRACTICES FOR INSTRUMENTATION

2.23 UNIFORM BUILDING CODE (UBC)

3.0 DESIGN AND PERFORMANCE REQUIREMENTS

3.1 GENERAL DESIGN

3.1.1 Each of the six (6) pump-turbines will be uprated to a capability in line with the increased capacity of the replacement runners. This uprate is expected to be 400 MW in the generating direction and 400 MW in the pumping direction, reference Design Data Sheet DDS-2. The Contractor shall be responsible for any modifications of generator-motor components necessary to withstand the increased loads under all operating conditions of the uprated pump-turbine, including runaway speed.

3.1.2 The Contractor shall be responsible for all field measurements necessary for final design. Any drawings referenced and the dimensions included in this Technical Specification are for general information only, and are not guaranteed by the Owner to represent the present as-built configuration of the installation.

3.1.3 Every Unit must be identical to the last Unit overhauled once the Overhauls are complete. Any technical change or other evolution of the components that occur during the Overhauls must be updated on all Units at the end of the Overhaul of the sixth Unit. It is the Contractor's responsibility to follow and maintain record of any changes that occur as each Unit is completed. It is the Contractor's responsibility to compile those changes into a chronological format for review by the Owner and use a checklist to ensure total compatibility. Changes required to ensure compatibility shall be borne by the Contractor.

3.1.4 Noise or vibration levels on the generator floor during all operating conditions shall be no higher than those measured at similar head and/or power output prior to the Overhaul.

3.2 EXISTING GENERATOR-MOTORS

The original generator-motors parameters are listed in Design Data Sheet DDS-1.

3.3 DESIGN OF REPLACEMENT STATOR WINDING

3.3.1 The Contractor shall design and provide new stator windings, with all engineering drawings, calculations, installation procedures, and other documents required for a complete supply.

3.3.2 The stator winding shall be designed to fit within the replacement stator core laminations. The winding shall be designed utilizing a lap type bar and connection configuration similar to the existing arrangement. Utilizing a wave type bar will not be considered. Alternative stator winding designs that require modified stator lamination dimensions will be considered.

3.3.3 The stator winding shall be designed and manufactured for cyclic loading of the generator-motor in pumping and generating modes in accordance with predicted unit duty cycling listed within Design Data Sheet DDS-3, without lessening its thirty (30) year life expectancy. Thermal expansion of the bar relative to the core shall be considered in the new winding design. Design and materials used to prevent internal delaminating of the stator bar during normal and permissible overload or upset conditions shall be submitted prior to finalizing the design.

TECHNICAL SPECIFICATION ME-11450.4

PUMP-TURBINE REFURBISHMENT

1.0 SCOPE

- 1.1 This Technical Specification covers the design, manufacture, shop testing, and installation of pump-turbine refurbishment 2nd services components for use in a pumped storage hydroelectric plant. It is not the intent of this document to specify all details of design and construction. It shall be the responsibility of Contractor to ensure that the equipment has been designed, fabricated, and tested in accordance with all Codes, Standards, and Governmental Regulations applicable to the specified service as listed in this Technical Specification.
- 1.2 This Technical Specification covers the refurbishment (rehabilitation) of the pump-turbine Units. Disassembly, inspection, and reassembly are described elsewhere in the Specification.
- 1.3 The Contractor shall be an expert in the performance of this type of work and will use its expertise to perform the scope of Work that is generically defined in this Technical Specification and the Owner's supplied Original Equipment Manufacturer's (OEM) documents. The Owner will make available any and all data that it has collected over the years with regard to the equipment and prior, similar outages.
- 1.4 The Owner will supply access to their records, including previous similar work performed on these Units and the OEM documents including drawings and manuals. It is anticipated that the tolerances, surface finishes, procedures, etc., defined in the OEM referenced material shall be maintained as a minimum. Should the Contractor want to deviate from these documents, a written request to the Owner is required. The request will define the reason for the deviation and the consequences of the deviation. The Owner will review the request and supply a written response to the request. No deviations are allowed without prior written permission from the Owner.
- 1.5 The scope of Work includes the refurbishing of the existing equipment as defined in this Technical Specification. The refurbishment is to recondition the equipment to an "as new" condition, ready to be reassembled.

2.0 CODES AND STANDARDS

All equipment, materials, and services provided in accordance with this Technical Specification and other contract documents shall comply with the intent of the latest applicable codes, standards, specifications, regulations, procedures, and tests of the following organizations in effect as of the date of the contract and/or as specified in this Technical Specification and other contract documents:

- | | | |
|-----|--|--------|
| 2.1 | American Institute of Steel Construction | (AISC) |
| 2.2 | American Iron and Steel Institute | (AISI) |
| 2.3 | American National Standards Institute | (ANSI) |
| 2.4 | American Society for Testing and Materials | (ASTM) |
| 2.5 | American Society of Mechanical Engineers | (ASME) |
| 2.6 | American Welding Society | (AWS) |
| 2.7 | Canadian Electrical Association | (CEA) |

- 2.8 Institute of Electrical and Electronics Engineers (IEEE)
- 2.9 Society of Nondestructive Testing (SNT)
- 2.10 Michigan Occupational Safety and Health Administration (MIOSHA)
- 2.11 Steel Structure Painting Council (SSPC)
- 2.12 International Electrotechnical Commission (IEC)
- 2.13 International Standardization Organization (ISO)
- 2.14 All applicable federal, state and local laws, codes, regulations, and ordinances.

3.0 DESIGN AND PERFORMANCE REQUIREMENTS

3.1 REHABILITATION ACTIVITIES

- 3.1.1 The Contractor shall be responsible for supplying and installing all materials that are normally replaced when this type of activity is performed (such as gaskets, seals, etc.). All remaining Work required to refurbish the equipment to make the equipment “as new” is to be performed on the equipment.
- 3.1.2 The refurbishment shall consist of those activities that must be conducted as a matter of course given the extent of a major Unit Overhaul, those activities that would be necessary in order to achieve the performance and longevity expectations described, and those activities that the Owner’s and/or the Contractor’s experience has indicated could be problematic if not at least assessed, and perhaps implemented, given the opportunity afforded by the Overhauls. The Contractor shall perform, as a minimum, the following rehabilitation activities due to the overall material condition of the Units, their age, the manner in which they have been operated in the past, and the manner in which they are expected to be operated in the future.
- 3.1.3 Due to the limitations at site, it is expected that the Contractor shall remove as many of the components as possible to an offsite facility to perform the refurbishment. The Contractor shall develop a plan that describes the work plan (either on site or off site) of each component of the equipment. The Work plan shall include a detailed schedule that will be used to monitor the progress of the refurbishment activities.
- 3.1.4 All greaseless bushings designed and supplied for the refurbishment shall have a proven track record of use in the specific application. It is the responsibility of the Contractor to prove that any proposed bushing material is of sufficient quality and durability for the proposed application. The final decision on the acceptability of bearing material will be made by the Owner.

3.2 SPIRAL CASE

- 3.2.1 Test for existing lead paint. Blast and coat interior with a 2-part epoxy system suitable for immersed service per Section 6.2.2 herein. Before painting, visually inspect for damage (erosion, corrosion, or cavitation) and repair.
- 3.2.2 Install fittings and valve in the area of the man-door for future testing and checking for water level (Note: some Units already have such devices and do not require additional).

PART THREE
ATTACHMENTS

ATTACHMENT C

QUALITY ASSURANCE/QUALITY CONTROL REQUIREMENTS

SPECIFICATION 1140-003

PH-00009

CONSUMERS ENERGY COMPANY

LUDINGTON PUMPED STORAGE PLANT, UNITS No. 1-6
MAJOR UNIT OVERHAULS

QUALITY ASSURANCE/QUALITY CONTROL REQUIREMENTS

1.0 SCOPE

- 1.1 This document establishes the Quality Assurance/Quality Control (QA/QC) requirements for the design, fabrication, inspection, examination, repair, shop testing, packaging, handling, shipping, and field installation of the system or item(s) of equipment described herein.
- 1.2 The QA/QC requirements set forth in this document shall be satisfied in addition to all detailed requirements contained in this Conformed Contract Specification.

2.0 DEFINITIONS

- 2.1 Hold Point - A manufacturing or inspection step for which the Contractor is obligated to notify the Owner of its intent to perform that step at a specified time in the near future, usually in seven (7) days, so that the step may be witnessed by the Owner. The Contractor may not proceed with the manufacturing or inspection step in the absence of the Owner, unless the Owner waives, in writing, their intention to witness that step.
- 2.2 Notification Point - A manufacturing or inspection step for which the Contractor is obligated to notify the Owner of its intent to perform that step at a specified time in the near future, usually in seven (7) days, so that the step may be witnessed by the Owner. The Contractor may proceed with the manufacturing or inspection step in the absence of the Owner if the Owner has been notified and choose not to participate.

3.0 GENERAL QUALITY ASSURANCE/QUALITY CONTROL PROGRAM REQUIREMENTS

3.1 QUALITY ASSURANCE/QUALITY CONTROL COORDINATION

The Contractor shall coordinate closely with the Owner for the various QA/QC activities. The Contractor shall be subject to various aspects of the Owner's QA/QC Program as delineated in this Conformed Contract Specification.

3.2 QUALITY ASSURANCE/QUALITY CONTROL PLAN AND PROCEDURES

- 3.2.1 The Contractor shall prepare an order-specific Quality Assurance/Quality Control Plan which defines the means by which the requirements of this Conformed Contract Specification shall be met. This Plan shall include the following as a minimum:

- 3.2.1.1 A Controlled copy of the Contractor's Quality Assurance/Quality Control Manual, if not already provided.

- 3.2.1.2 A systematic plan by which Specification requirements will be satisfied.

3.2.1.3 A chart or schedule identifying significant quality milestones. Significant quality milestones include actions required by this Conformed Contract Specification, such as: QA/QC Plan preparation, submittal of procurement documents, submittal of procedures, etc. The information shall be integrated into the overall schedule.

3.2.2 The Contractor shall submit the QA/QC Plan to the Owner for their review. The Contractor and the Owner shall mutually agree on the QA/QC Plan prior to the start of any activity affected by the Plan. If the Owner conditionally approves the Plan, the Contractor may proceed with the activities covered by the procedure indexed or included in the Plan, provided that the Contractor agrees in writing to comply with the conditions of concurrence. Approval of the Plan does not relieve the Contractor of the obligation to comply with the requirements of this Specification. Subsequently, if the Plan is found to be ineffective or inadequate, the Owner reserves the right to require the necessary revisions. In the event of any conflict between the Contractor's Policies and Procedures and this Contract Specification, the Contractor shall so notify the Owner to affect mutual resolution.

4.0 CONTRACTOR AND SUBCONTRACTOR QUALITY ASSURANCE/QUALITY CONTROL PROGRAM REQUIREMENTS

4.1 RESPONSE TO OWNER'S DOCUMENTS

The Contractor shall respond to the Owner's Nonconformance Reports, Management Corrective Action Requests, Deviation Reports, Stop Work Orders, correspondences, and other pertinent documents within the requested time frame. Such documents shall be processed in accordance with the Owner's QA/QC Program and this Conformed Contract Specification.

4.2 NONCONFORMANCES

4.2.1 Reporting

Reports of nonconformances, as determined by the Contractor and as defined herein, shall be prepared by the Contractor and its Subcontractors as soon as practicable after detection. A copy of each Nonconformance Report containing, as a minimum, items of Section 4.2.2, with a disposition of "Use As Is" or "Repair," shall be submitted to the Owner prior to the end of the working day following the day during which the nonconformance was documented or received by the Contractor. A copy of each Nonconformance Report, as described herein, shall be submitted to the Owner upon disposition, and again upon final implementation, verification, and closure. A nonconformance is:

4.2.1.1 A case in which the "As Is" condition of the characteristic of an item is different from the drawing or Specification requirement for that characteristic.

4.2.1.2 A failure of an item to meet design criteria which occurs during qualification testing.

4.2.1.3 A noncompliance with a requirement, such as failure to perform a nondestructive examination in accordance with the procedure for such an examination, or failure to follow a required special process procedure, regardless of whether or not the item turns out to be defective.

4.2.1.4 An inadequacy as determined by the Contractor of any quality-related document, such as computer software or stress analysis, which may have a bearing on a design parameter.

4.2.2 Report Content

The report shall comprise as a minimum:

4.2.2.1 A unique and traceable number for this Conformed Contract Specification

4.2.2.2 The name or identification number of nonconforming item or condition

4.2.2.3 A description of "As Is" versus the required condition

4.2.2.4 The root cause of the nonconformance

4.2.2.5 The disposition recommendation, including the identification of the organization responsible, the action to be taken, and when it is to be completed

4.2.2.6 The dated signature of the originator of the report

4.2.2.7 The dated signature of the person making the disposition recommendation

4.2.3 Disposition

For recommended dispositions of "Repair" or "Use As Is," the Contractor and its Subcontractors shall provide adequate, written, technical justification for such disposition. Before implementing any such disposition, the Contractor and its Subcontractors shall obtain the Owner's concurrence with the recommended disposition. In addition, all other nonconformances and their written dispositions shall be submitted to the Owner for information. The Contractor and its Subcontractors shall identify those individuals who, by title, have the authority to recommend "Use As Is" or "Repair" dispositions for Nonconformance Reports.

4.3 AUDIT RESPONSES

Responses to the Owner's Audit Finding Reports (AFRs) and Unresolved Items (URIs), giving the results of the Contractor's evaluation, specific action taken or to be taken, name(s) of individual(s) having authority and responsibility for implementing the action(s), the date that each action was completed or is planned to be implemented and the effective date of each action shall be submitted to the Owner for review and concurrence within the period defined by the Owner. The corrective action commitment shall be such as to eliminate the root cause of, or at least minimize the probability of recurrence of, the AFR.

4.4 QUALITY RECORDS

The Contractor shall prepare the required quality records. As a minimum, the following types of documents shall be considered quality records:

4.4.1 Design Documents

4.4.1.1 Performance specifications for equipment

4.4.1.2 Drawings, including component assembly, welding, piping, and area drawings

4.4.1.3 Other specifications, including special process and test specifications

4.4.1.4 Material procurement reports, traceability records, and identification drawings

4.4.1.5 Record drawings

4.4.1.6 Stress and other analytical reports supporting the design as applicable

4.4.1.7 Summaries of hand and computer calculations supporting the design. The summaries shall include the design inputs, assumptions, methods used, results, and conclusions.

4.4.2 Examination, Inspection, and Test Reports for Supplies and Procured Items

4.4.2.1 Source, receiving, in-process, and final inspection and test reports

4.4.2.2 Raw Material, chemical, and mechanical test reports

4.4.2.3 Reports of heat treatment

4.4.2.4 NDE personnel certification, qualification records, and NDE test reports, including radiographic film

4.4.2.5 Reports of nonconforming and discrepant conditions

4.4.2.6 Cleanliness inspection report

4.4.2.7 Welding, brazing, and soldering procedures and records, and personnel qualification records

4.4.2.8 Certified material test reports (CMTR)

4.4.2.9 Special process and procedures qualification records and personnel certifications

5.0 QUALITY ASSURANCE/QUALITY CONTROL REQUIREMENTS FOR PROCUREMENT

5.1 PURCHASE DOCUMENTS

The Contractor's specification to its Subcontractors shall require that the Subcontractors document, implement, and maintain a system or program which complies with the applicable requirements contained herein, and as provided by the Owner in the Contract Documents, to the degree applicable for the product or service being furnished. A potential Subcontractor's inability to comply with this requirement shall be a factor in the evaluation of the Subcontractor for that product or service.

5.2 SUBCONTRACTOR SELECTION

The Contractor shall have procedures in effect to determine the capability of its Subcontractors. All procurements shall be made from its Subcontractors who have been determined to be capable of supplying items and services to the specified quality.

5.3 QUALITY ASSURANCE/QUALITY CONTROL MEETINGS AND VISITS

5.3.1 A site visit with the Owner's participation will be required for the Contractor and selected Subcontractors as appropriate, to gain familiarity with existing site conditions.

- 5.3.2 In the event of the existence of any unusual or complex Quality Assurance/Quality Control Requirements, the Contractor shall arrange for a meeting at the selected Subcontractor's facility or other appropriate location prior to the award of the Contractor's subcontract. At least seven (7) days prior to such a scheduled meeting, the Contractor shall notify the Owner of the administrative and technical specifics of the meeting to facilitate the Owner's participation in the meeting. The purpose of the meeting shall be to provide direct communication with the Subcontractor to assure that the Subcontractor understands the Quality Assurance/Quality Control requirements and has the means of complying with them.

5.4 SUBCONTRACTOR DOCUMENTS

The Contractor shall submit to the Owner the quality-related documents which are required by the Contractor to be submitted by Subcontractors in response to this Conformed Contract Specification. It is the responsibility of the Contractor to ensure that each Subcontractor complies with these QA/QC documents. In the event a Subcontractor cannot or will not comply, this will be brought to the attention of the Owner on a case-by-case basis so that a resolution can be mutually agreed on.

5.5 SOURCE AND RECEIVING INSPECTION

- 5.5.1 The Contractor shall prepare source and receiving inspection plans and shall submit the plans to the Owner for review and approval. The submittal shall include any required test procedures used during inspection.
- 5.5.2 The Contractor shall notify the Owner at least seven (7) days in advance of the Contractor's or the Owner's identified "Hold" Point and/or "Notification" Point.

6.0 QUALITY ASSURANCE/QUALITY CONTROL REQUIREMENTS FOR FABRICATION, INSPECTION, TESTING AND SHIPPING

6.1 INTEGRATED MANUFACTURING AND INSPECTION PLAN

The Contractor shall prepare and maintain a written Integrated Manufacturing and Inspection Plan (hereinafter referred to as an "Integrated Plan") which integrates all activities including the procurement, fabrication, assembly, installation, inspection, examination, test, and transportation steps to be accomplished. The Contractor shall submit the Integrated Plan to the Owner for review and comment. All subsequent changes to the plan shall be submitted to the Owner for review and comment prior to implementation. The Owner may identify the applicable Hold Points to be incorporated into the plan.

6.2 QUALITY ASSURANCE/QUALITY CONTROL HOLD AND NOTIFICATION POINTS

The Owner's hold points are defined below. The Contractor shall give the Owner at least seven (7) days notice for scheduled Hold Points. Prior to the final Hold Point, the Contractor shall advise the Owner of scheduled inspections and tests of completed subassemblies. If the Owner elects to witness these and satisfy portions of the final Hold Point in advance, the Contractor shall make its facilities available to the Owner for this purpose for a maximum of three (3) days at no cost to the Owner. The following Hold Points shall be applicable to the equipment to be furnished, as a minimum:

- 6.2.1 Meeting at the Contractor's facilities.
- 6.2.2 Design Review Meeting(s) at the Contractor's facilities.

- 6.2.3 Testing as required by this Conformed Contract Specification.
- 6.2.4 Documentation review prior to release for shipment.
- 6.2.5 Pre-shipment inspection.

CONTRACT CHANGE ORDER

Date: February 1, 2017

No. 09

WHEREAS, CONSUMERS ENERGY COMPANY, One Energy Plaza, Jackson, MI 49201 ("Consumers"), DTE ELECTRIC COMPANY (formerly known as The Detroit Edison Company), One Energy Plaza, Detroit, MI 48226 ("Edison") (Consumers and Edison being collectively called the "Owner") and TOSHIBA AMERICA ENERGY SYSTEMS CORPORATION, 3545 Whitehall Park Drive, Suite 500, Charlotte, NC 28273 (assignee of Toshiba International Corporation) (the "Contractor"), are parties to the "Ludington Pumped Storage Plant Engineering, Procurement, & Construction Contract for Units 1 through 6 Turbine Generator Overhaul" dated October 15, 2010, as heretofore amended by Change Orders Nos. 01 through 08 thereto (said contract, as so heretofore amended, the "Contract"); and

WHEREAS, the Owner claims that, among other things, Unit Late Interim Acceptance Liquidated Damages are due from the Contractor to the Owner under the Contract in respect to Units 2 and 4; and

WHEREAS, the Contractor has presented to the Owner one or more statements of claim for additional compensation and schedule relief; and

WHEREAS, the Parties have engaged in negotiations with a view toward resolving the current open issues between them, including the Owner's above-indicated claim for liquidated damages and the Contractor's claim's for additional compensation and schedule relief;

NOW THEREFORE, for and in consideration of the foregoing recitals and the mutual agreements set forth hereinbelow, the parties hereby mutually agree as follows:

1. Payment of Late Interim Acceptance Liquidated Damages. In full and final settlement of all claims by the Owner for "Unit Late Interim Acceptance Liquidated Damages" for Units 2 and 4 pursuant to **Subpart 2.B.(ii)** of the existing **SECTION IV - CONTRACT PRICE** of the Contract, the Contractor agrees to pay to the Owner a combined sum of Fourteen Million Five Hundred Twenty Five Thousand Dollars (\$14,525,000.00); said total sum being broken down as follows:

- \$8,475,000.00 in respect to Unit 2; and
- \$6,050,000.00 in respect to Unit 4.

In order to satisfy the Contractor's above-stated obligation for said Unit Late Interim Acceptance Liquidated Damages, the parties hereby agree as follows:

- (a) Prior to the date of this **Change Order No. 09**, the Owner has, in addition to the ten percent (10%) retainage provided for in the Contract, withheld from other payments invoiced by the Contractor to the Owner under the Contract:
 - o the amount of \$7,109,500.50 in respect to Unit 2; and
 - o the amount of \$6,050,000.00 in respect to Unit 4;

specifically for the purpose of partially covering, in the case of Unit 2, and covering, in the case of Unit 4, the liability of the Contractor for and entitlement of the Owner to Unit Late

Interim Acceptance Liquidated Damages in respect to Unit 2 and Unit 4. The Contractor hereby consents to the Owner permanently retaining the above-mentioned previously withheld amounts in partial payment of said Unit Late Interim Acceptance Liquidated Damages for Unit 2 and in payment of said Unit Late Interim Acceptance Liquidated Damages for Unit 4. Furthermore, the Contractor expressly acknowledges that the amounts that were owed by the Owner to the Contractor under the Contractor's invoices from which the Owner withheld the above-mentioned amounts shall be deemed to have been fully paid by the Owner to the Contractor and the Owner shall be credited as having fully paid all of said invoiced amounts notwithstanding the Owner's said withholding of same.

- (b) In respect to the deficient amount of the Unit Late Interim Acceptance Liquidated Damages owing for Unit 2 which have not been withheld by the Owner as of the date of this **Change Order No. 09** as noted above, the Contractor shall pay to the Owner the difference between the above-stated amount owed by the Contractor to the Owner and the above-stated amount previously withheld by the Owner from invoices of the Contractor for Unit Late Interim Acceptance Liquidated Damages, said amount to be so paid by the Contractor to the Owner being \$1,365,499.50 (i.e., \$8,475,000.00 minus \$7,109,500.50). It is understood that the payment under this **Item 1(b)** may be combined with, and netted against, the payment(s) under **Item 4(h)** below of this **Change Order No. 09** in a single complete and proper invoice issued upon the execution of this **Change Order No. 09**.

2. **Time for Performance.** Article 2 ("**TIME FOR PERFORMANCE**") of **SECTION I - AGREEMENT** of the Contract is hereby revised to read, in its entirety, as follows:

"2. TIME FOR PERFORMANCE

The Contractor shall commence the Work on or about January 31, 2011, and shall prosecute same in accordance with the scheduling provision of this Contract and complete the entire Work (i.e., Final Completion as hereinafter defined) on or before December 31, 2020. The Work will be performed in accordance with the Contract Schedule as hereinafter defined."

3. **Changes in the Work and Extra Work.** In respect to **Article 3 ("CHANGES IN THE WORK AND EXTRA WORK")** of **SECTION I - AGREEMENT** of the Contract:

- (a) The existing last sentence of the second paragraph of said **Article 3 ("CHANGES IN THE WORK AND EXTRA WORK")** of said **SECTION I - AGREEMENT** is hereby revised to read as follows:

"Unless otherwise mutually agreed, such a Contract Change Order will be issued no less frequently than the earlier of (i) such time as PCNs have accumulated to a net value of One Million Dollars (\$1,000,000.00), or (ii) six (6) months after issuance of the applicable PCN."

4. **Invoicing and Payments.** In respect to **Article 5 ("Invoicing and Payments")** of **SECTION I - AGREEMENT** of the Contract:

be made on a total basis for the Contract as a whole; however, for accounting purposes and for purposes of future invoices as referred to in the immediately following item "(ii)", each of said "**Amount Paid and Retained-to-Date**" and "**Amount Earned-to-Date**" shall also, as part of the parties' aforesaid determinations (and their aforesaid mutual written confirmation of the results thereof) be broken down on a per-Unit basis.

- (ii) Said mutually agreed-upon revised "Work Breakdown Structure ('WBS')/Schedule Of Values" shall govern the amount of the Contractor's monthly invoices that, from and after the date of this **Change Order No. 09**, are issued under the provisions of the first sentence of the first paragraph of **Subarticle 5(a)** of said **Article 5**.

5. **Notices.** The address (and associated information) for notices sent to the Contractor as set forth in **Subarticle (a)** of **Article GC2 ("NOTICES; OWNER'S PROJECT MANAGER")** is hereby replaced by the following:

"if to the Contractor:

Toshiba America Energy Systems Corporation
3525 South Lakeshore Drive
Ludington, MI 49431
Attn: Ludington Pumped Storage Plant Project Manager
Telefax: (704) 548-7701

with a written copy to:

Toshiba America Energy Systems Corporation
3545 Whitehall Park Drive, Suite 500
Charlotte, NC 28273
Attn: General Counsel
Telefax: (704) 548-7701"

6. **Warranty.** That portion of clause "(ii)" of **Article GC 21 ("WARRANTY")** of **SECTION II - GENERAL CONDITIONS** of the Contract that now reads:

"for a period of five (5) years and one hundred eighty-three (183) days from and after the date of Unit Final Acceptance for the applicable Unit (the 'Warranty Period')."

is hereby revised to read as follows:

"for a period beginning on the date of Unit Interim Acceptance and continuing until the expiration of the longer of the period set forth in '(a)' below and the period set forth in '(b)' below:

- (a) six (6) years from and after the date of successful completion of the Extended Commercial Operation Test of the applicable Unit; or
- (b) three (3) years after the date of Unit Final Acceptance;

(the 'Warranty Period'). It is expressly understood that the foregoing shall apply as the Warranty Period regardless of the duration(s) between or among any of the above-referenced dates, it being understood, among other factors, that performance of the activities needed to achieve Unit Final Acceptance may require a Unit outage the timing of which is dependent on the Owner's operational needs and planning."

7. Limit of Liability. Subarticle (a) of Article GC28 ("LIMITATION OF LIABILITY") of Section II - GENERAL CONDITIONS of the Contract is hereby replaced in its entirety by the following:

"(a) Limitation of Liability. The Contractor's maximum liability to the Owner under this Contract, whether arising in breach of contract, tort (including negligence), strict liability, or otherwise, shall not, in the aggregate, exceed an amount (the 'Total Liability Limit') equal to the sum of:

- the Overall Total Fixed Price (as defined in Part 1.A. of SECTION IV - CONTRACT PRICE (Revision 1)), as same may be amended by any Change Orders or otherwise; plus
- the maximum bonus amounts for all Units that may be payable per the terms and conditions of Part 2 of SECTION IV - CONTRACT PRICE (Revision 1), as same may be amended by any Change Orders or otherwise.

Subject to the Total Liability Limit, the Contractor's maximum liability to the Owner under this Contract with respect to the Work associated with any one (1) Unit, whether arising in breach of contract, tort (including negligence), strict liability, or otherwise, shall not, in the aggregate, exceed an amount (the 'Unit Liability Limit') equal to the following:

(i) in the case of each of the first three (3) Units, an amount equal to two (2) times the sum of:

- the applicable Unit Total Fixed Price (as defined in Part 1.A. of SECTION IV - CONTRACT PRICE (Revision 1)), as same may be hereafter amended by any Change Orders or otherwise; plus
- the maximum bonus amount per Unit that may be payable per the terms and conditions of Part 2 of SECTION IV - CONTRACT PRICE (Revision 1), as same may be hereafter amended by any Change Orders or otherwise;

and

(ii) in the case of each of the last three (3) Units, an amount equal to the sum of:

- the applicable Unit Total Fixed Price (as defined in Part 1.A. of SECTION IV - CONTRACT PRICE (Revision 1)), as same may be amended by any Change Orders or otherwise; plus
- the maximum bonus amount per Unit that may be payable per the terms and conditions of Part 2 of SECTION IV - CONTRACT PRICE (Revision 1), as same may be amended by any Change Orders or otherwise.

Notwithstanding the foregoing, neither the Total Liability Limit nor the Unit Liability Limits shall apply to, and no credit shall be applied against

such liability limitations for: (i) any claims, losses, costs, expenses, damages, liabilities or other amounts arising out of the Contractor's obligations under Articles GC16, GC17(b), or GC30 hereof; (ii) the Contractor's obligations for, under or in connection with the representations, agreements and undertakings covered by or made in any Partial Unconditional Waiver, Full Unconditional Waiver, Sworn Statement, or release that the Contractor has delivered or is required to deliver pursuant to this Contract; (iii) insurance proceeds paid in respect of, or otherwise any matter that should be covered by, any insurance required to be obtained and maintained by the Contractor or any Subcontractor under this Contract; or (iv) the Contractor's, or any of its Subcontractors' or Suppliers', willful misconduct or fraud."

8. **Overhaul Sequence and Schedule.** On Page 1 of SECTION III - DESCRIPTION OF WORK of the Contract, that portion of the table showing "Milestones" and "Outage Sequence" that relates to the "Third", "Fourth", "Fifth" and "Sixth" sequenced Units (those Units being understood to be the Owner's Ludington Pumped Storage Plant Unit Nos. 5, 6, 3 and 1, respectively), together with the asterisked footnote that immediately follows that table, is hereby replaced by the following table and footnotes:

Milestone	Outage Sequence			
	Third (Ludington Pumped Storage Plant Unit No. 5)	Fourth (Ludington Pumped Storage Plant Unit No. 6)	Fifth (Ludington Pumped Storage Plant Unit No. 3)	Sixth (Ludington Pumped Storage Plant Unit No. 1)
All Material On Jobsite For Unit Overhaul	See Note "(1)" below*	See Note "(1)" below	See Note "(1)" below	See Note "(1)" below
Overhaul Outage Start Date	April 28, 2016	See Note "(2)" below	See Note "(2)" below	See Note "(2)" below
Overhaul Outage Finish Date (also referred to as the "Unit Interim Acceptance Target Date")	March 24, 2017 (that date being 330 days after the Overhaul Outage Start Date)	The date that falls 330 days after the Overhaul Outage Start Date	The date that falls 330 days after the Overhaul Outage Start Date	The date that falls 330 days after the Overhaul Outage Start Date
Unit Final Acceptance	Dec. 31, 2017	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2020

Note (1) It is the Contractor's responsibility to have all necessary material delivered to and properly inspected at Jobsite in such timely manner as is necessary for timely performance of the Work without delays. Any and all costs associated with assuring timely and proper supply of material to the Jobsite, including but not limited to all storage, handling and processing facilities and services (whether on- or off-Jobsite) that may be needed, shall be borne by the Contractor.

Note (2) The Overhaul Outage State Date for the applicable Unit will be the date that falls thirty (30) days prior to the date that the Owner, based on the then-available information and in its good faith judgment at the time in question, projects that Unit Interim Acceptance on the immediately preceding Unit will be actually achieved (the Contractor not being relieved of responsibility, however, for failure to meet said Unit Interim Acceptance date for the preceding Unit that is so projected by the Owner). However, it is understood that the parties may mutually agree in writing on an earlier or later date as the Overhaul Outage Start Date for a particular Unit. The Contractor shall provide the Owner all necessary information relevant to determination of the Overhaul Outage Start Date for each applicable Unit. Without limiting the generality of the

provisions of Subarticle GC7(b) of SECTION II - GENERAL CONDITIONS, it is expressly understood that if, in accordance with the preceding provisions, the Overhaul Outage Start Date for any of the Fourth, Fifth or Sixth Units would be later than four hundred (400) days after the Overhaul Outage Start Date of the immediately preceding Unit, the Owner shall have the right to terminate this Contract for Major Default as described in Subarticle GC7(b) of SECTION II - GENERAL CONDITIONS and exercise the rights and remedies set forth in said Subarticle GC7(b)

For the avoidance of any doubt, it is expressly understood that any delays in achieving Unit Interim Acceptance for any Unit that are caused by the Owner's insistence on the Contractor properly performing all parts of the Work in accordance with the requirements of this Contract or by the Owner's assertion or exercise of any other rights of the Owner under this Contract, shall in no event be cause for the Contractor to claim entitlement to any delay of the Unit Interim Acceptance Target Date (or any extension to the Unit Interim Acceptance Milestone Date Deadband referred to in SECTION IV - CONTRACT PRICE) or any additional compensation from the Owner. Furthermore, it is agreed that any delays in achieving Unit Interim Acceptance for any Unit, up to a total of five (5) days in the case of each Unit, that are caused by and the fault of the Owner, not related to the Owner's insistence on the Contractor properly performing all parts of the Work in accordance with the requirements of this Contract or by the Owner's assertion or exercise of any other rights of the Owner under this Contract, shall in no event be cause for the Contractor to claim entitlement to any delay of the Unit Interim Acceptance Target Date (or any extension to the Unit Interim Acceptance Milestone Date Deadband referred to in SECTION IV - CONTRACT PRICE) or any additional compensation from the Owner.

NOTE: It is understood that said table of "Milestones" and "Outage Sequence", along with the asterisked footnote that immediately follows same, as it appears in SECTION III - DESCRIPTION OF WORK of the original Contract, shall remain unchanged in respect to the "First" and "Second" sequenced Units (those Units being the Owner's Ludington Pumped Storage Plant Units Nos. 2 and 4, respectively), subject only to the following additional understandings: It is understood that by mutual agreement there is certain Work that the Contractor needs to perform to achieve Unit Final Acceptance on said Units Nos. 2 and 4 that was not performed during the applicable original Unit outage and will require an additional Unit outage for its performance. The Owner presently anticipates that such additional Unit outage for Unit No. 2 will occur in the Spring of 2018 and that such additional Unit outage for Unit No. 4 will occur in the Fall of 2018.

9. **Description of Work.** The Work under the Contract, as set forth in SECTION III - DESCRIPTION OF WORK and in the Conformed Contract Specification and in all applicable Drawings and Specifications and in any other applicable provisions of the Contract (whether the original Contract or any prior Change Orders), is hereby changed, revised, added-to and/or clarified as follows:

- (a) the changes, revision, additions and/or clarifications in the Work that are set forth and described in the following listed Project Change Notices ("PCNs") shall be considered to be part of the Work under SECTION III - DESCRIPTION OF WORK:

PCN No.	Summary Description
176	Stand-By Main Shaft Machining Devices
259	LBB Sole Plate Grout Repair – First Unit (Unit 2)
300	Rotor Rim Bolt Torqueing Verification – First Unit (Unit 2)
318	Wicket Gate Thrust Block Flange Machining – Second Unit (Unit 4)
322	Unit 4 Main Shaft Spigot & Keyway Machining
328	Intermediate Wicket Gate Bushing Seal Packing – First Unit (Unit 2)
346	Unit 4 Component Removal Impacts
350	Wicket Gate Refurbishment - Extra Weld Material – Second

	Unit (Unit 4)
355	Revised Paint Coating System Product Specification
357	Recoat Unit 4 Wicket Gates
358	Stationary Wear Ring Latent Conditions (Anchors) – Second Unit (Unit 4)
359	Discharge Wear Ring Seat Elevation Correction – Second Unit (Unit 4)
362	Isophase and Generator Lead Box Upgrades – All Units
366	Intermediate Head Cover Bushing Sleeves – Second Unit (Unit 4)
371	Unit 4 Rotor Rim Bolt Torque Verification
372	Bottom Wicket Gate Bushing Sleeves – Second Unit (Unit 4)
374	Unit 5 Owner Supplied (ESD) Parts
376	Unit 5 Head Cover Cavitation & Indications Repair
377	Unit 5 Wicket Gate Bushing Sleeves & Head Cover Thrust Block Machining
382	Repair #15 Bottom Wicket Gate Bore Crack – Second Unit (Unit 4)
386	Unit 5 Stator Hazardous Materials Abatement
387	Unit 5 Stator Pedestal Machining
388	Unit 5 Main Shaft Machining
389	Unit 5 Embedded & HC Piping Repairs & Oil Cooler Piping Replacement
390	Unit 5 Stator Install Cost Impact Due To Gantry Crane Travel
391	Unit 5 Discharge Ring Latent Weld Defect
392	Unit 5 South Servomotor Rod Replacement
393	Unit 5 Operating Ring Wear Plate
394	Unit 5 Spider Coupling Face Machining
395	Unit 5 Main Shaft Spigot & Keyway Machining
396	Side Stream Filtration Piping – Third Through Sixth Units (Units 5, 6, 3, & 1)
397	Owner Supplied (ESD) Parts – Fourth Through Sixth Units (Units 6, 3, & 1)
398	Head Cover Wicket Gate Flange Machining – Fourth Through Sixth Units (Units 6, 3, & 1)
399	Main Shaft Spigot & Keyway Machining – Fourth Through Sixth Units (Units 6, 3, & 1)
400	Stay Vane Cavitation & Indications Repair – Fourth Through Sixth Units (Units 6, 3, & 1)
401	Head Cover Cavitation & Indications Repair – Fourth Through Sixth Units (Units 6, 3, & 1)
402	Rotor Rim Bolt Torqueing Verification – Fourth Through Sixth Units (Units 6, 3, & 1)
403	Lower Bearing Bracket Sole Plate Grout Repair – Fourth Through Sixth Units (Units 6, 3, & 1)
404	Operating Ring Galling Repair – Fourth Through Sixth Units (Units 6, 3, & 1)
405	Stator Hazardous Materials Abatement – Fourth Through Sixth Units (Units 6, 3, & 1)
406	Stator Pedestal Machining – Fourth Through Sixth Units (Units 6, 3, & 1)
407	All Units Air Cover Crack Repairs
409	Custom Tools and Equipment

It is expressly understood that the listing, above, of specific PCNs identifying certain specific changes, revisions, additions and/or clarifications in the Work does not limit the scope of the

immediately following **Item 9(b)** of this **Change Order No. 09**. Anything set forth in any of the above-listed PCNs regarding pricing or Contract Schedule shall be understood to be subsumed into the revisions to the Contract Price and Contract Schedule set forth in this **Change Order No. 09** and shall not entitle the Contractor to any other or additional compensation or have any separate or additional effect on Contract Schedule.

(b) With respect to:

any conditions or situations that have been found or encountered in the performance of the Work up to and including the date of this **Change Order No. 09** for which any corrective, adaptive or other remedial work was, is or will be necessary or advisable in order to properly and fully perform and complete the Work under the Contract in full accordance with all intentions of the Contract (and regardless of whether or not the applicable corrective, adaptive or other remedial work was expressly addressed elsewhere in this **Change Order No. 09** or in any prior Change Order), and regardless of the extent to which any such conditions or situations were, previously to having been encountered, known or unknown, anticipated or unanticipated, planned for or unplanned for, and specifically including but not limited to the following:

- states of repair or disrepair of any existing Ludington Pumped Storage Plant equipment, structures or facilities;
- the existence of wear and tear (normal or otherwise) on or damage to any existing Ludington Pumped Storage Plant equipment, structures or facilities, including but not limited to cavitation;
- difficulties in ingress to, egress from, disassembling, removing or accessing any portions of any existing Ludington Pumped Storage Plant equipment, structures or facilities;
- deviations (including but not limited to deviations as to size, dimension, exact location or manner of installation or any other matter) of any existing Ludington Pumped Storage Plant equipment, structures or facilities from what was shown or stated on any drawings or in other documentation;

it is expressly agreed that the Contractor shall -- except solely and exclusively as otherwise expressly identified in the list of "exclusions" set forth hereinbelow -- without any additional compensation beyond the applicable **Unit Total Fixed Price(s)** (and the **Overall Total Fixed Price**) set forth in **SECTION IV - CONTRACT PRICE (Revision 1)** (see **Item 10**, below, of this **Change Order No. 09**):

- o perform, furnish and provide, with respect to any and all such conditions or situations so already found or encountered on or with respect to any Unit(s) up to and including the date of this **Change Order No. 09**, all necessary or advisable corrective, adaptive and/or other remedial activities, measures and work that may be necessary or advisable in order to properly and fully perform and complete the entire Work under the Contract in full accordance with all intentions of the Contract; and
- o perform, furnish and provide, with respect to conditions or situations of the same or substantially similar types or kinds as aforesaid that may again be found or encountered on any Unit(s) (even if, when so again found or encountered, they are found to exist to a different extent or degree than when previously found or encountered) at any time after the date of this **Change Order No. 09**, all necessary or advisable corrective, adaptive and/or other remedial activities, measures and work that may be necessary or advisable in order to properly and fully perform and complete the Work under the Contract in full accordance with all intentions of the Contract.

The preceding provisions of this **Item 9(b)** are intended to supplement, and not to limit or restrict in any way whatsoever, the scope of the Contractor's responsibilities as set forth in the Conformed Contract Specification and otherwise in the Contract (as amended by this **Change Order No. 09** as well as all prior Change Orders); it being specifically understood and acknowledged that none of the foregoing is intended to imply that any particular activity, measure or work is not already part of the Contractor's scope of responsibilities under the Contract.

EXCLUSIONS: Notwithstanding the foregoing, the following are excluded (and are the sole exclusions) from the foregoing provisions of this **Item 9(b)** -- consisting of conditions or situations previously found or encountered in the performance of the Work up to and including the date of this **Change Order No. 09** for which, if same are hereafter again found or encountered in the performance of the Work, the necessary or appropriate corrective, adaptive or other remedial work (when duly authorized and approved in writing by the Owner in accordance with the terms and conditions of the Contract) may be considered additional Work for which the Contractor may be entitled to additional compensation, are the following:

Any of the following that may be hereafter encountered in the performance of the Work on Ludington Pumped Storage Plant Units 6, 3 or 1:

- Shaft and Spider Coupling Machining as described in RFI C0006;
- Discharge Ring Crack Repairs as described in RFI C0033;
- Repair of Wicket Gate Packing deterioration by Counterboring and Insertion of Sleeves;
- Replacement of Servomotor Shaft if, when examined, is found to be unrepairable;
- Repairs to or Replacement of the existing Cooling Water Piping (i.e. additional to removal, installation,

modifications, additions and other scope already included in the Work);

- Additional corrective Work resulting solely from Stay Flange Levelness being Out of Tolerance as defined in RFI 20231; or
- Additional corrective Work resulting solely from Circularity of the Draft Tube Outside of Centre for Energy Advancement through Technological Innovation (CEATI) Report No. T122700-0381, Part II, issued in June 2015.

It is expressly understood that these foregoing listed exclusions have no applicability to Units 2, 4 and 5, for which Units all necessary or appropriate corrective, adaptive or other remedial work related to any of the foregoing is included without exception.

- (c) Except as expressly set forth in Items 9(a) and 9(b) above, the provisions of said Items 9(a) and 9(b) shall not be interpreted to: (i) modify the Contractor's scope of responsibilities as set forth in the Conformed Contract Specification; or (ii) imply that any particular activity, measure or Work that is already part of the Contractor's scope of responsibilities under the Contract be restricted, expanded, limited or waived by the terms of this Change Order No. 09.

10. Contract Price. In respect to SECTION IV - CONTRACT PRICE of the Contract:

- (a) SECTION IV - CONTRACT PRICE of the Contract is hereby superseded and replaced in its entirety by the attached SECTION IV - CONTRACT PRICE (Revision 1); and all references to SECTION IV - CONTRACT PRICE in the Contract shall be understood to refer to SECTION IV - CONTRACT PRICE (Revision 1).

For the avoidance of any doubt, the Owner and the Contractor hereby expressly understand, acknowledge and agree that:

- said attached SECTION IV - CONTRACT PRICE (Revision 1) is intended to replace and supersede in their entirety all existing provisions of the Contract regarding pricing and compensation for the Work under the Contract, including not only all of the provisions that were set forth in the original SECTION IV - CONTRACT PRICE but also any provisions of any prior Change Orders that may have provided for pricing of or compensation to the Contractor for any Work in any manner that was different than or separate from the original provisions of said SECTION IV - CONTRACT PRICE; and
- except only as may be expressly otherwise provided in future Change Order(s) to the Contract (if any) that may be duly agreed upon and executed by the Owner and the Contractor after the date of this Change Order No. 09, the attached SECTION IV - CONTRACT PRICE (Revision 1) sets forth the full, complete, total and entire compensation to be paid by the Owner to the Contractor under the Contract.

- (b) It is expressly understood and agreed that the pricing set forth in the attached SECTION IV - CONTRACT PRICE (Revision 1) fully

satisfies any and all claims of the Contractor against the Owner for, and includes the Contractor's full, complete, total and entire compensation in any manner connected with or arising from, any and all changes in the Work, whether consisting of additions to the Work, deletions from the Work, changes (whether accelerations or delays) in the schedule for the Work, or any other changes in (or impacts on the performance of) the Work of any kind, up to and including the date of this **Change Order No. 09**, and the Contractor shall make no further claims against the Owner regarding the foregoing.

11. **Termination Schedule.** The existing **EXHIBIT J - TERMINATION SCHEDULE** to the Contract -- regarding which existing **EXHIBIT J** the parties hereby acknowledge that, notwithstanding the provisions of clause "(a)" of said existing **EXHIBIT J**, no updates/revisions have heretofore at any time been made -- is hereby superseded and replaced in its entirety by the attached **EXHIBIT J - TERMINATION SCHEDULE (Revision 1)**; and all references to **EXHIBIT J** in the Contract shall be understood to refer to **EXHIBIT J - TERMINATION SCHEDULE (Revision 1)**.
12. **Fixed Price and Reimbursable Unionized labor Breakdown.** **EXHIBIT O** to the Contract, as same may have been heretofore replaced and/or revised, is hereby deleted from the Contract in its entirety.
13. **Unionized Craft Labor Wage Rates.** **EXHIBIT P - UNIONIZED CRAFT LABOR WAGE RATES** to the Contract, as same may have been heretofore replaced and/or revised, is hereby deleted from the Contract in its entirety.
14. **The Contractor's "statement of claim" and the Owner's Claim for Late Interim Acceptance Liquidated Damages.** Without limiting the generality of the provisions of Item 10(b) of this **Change Order No. 09**, the Contractor expressly acknowledges, agrees and confirms that all claims, whether for additional compensation, schedule relief or otherwise, set forth in the Contractor's statement(s) of claim referred to in the recitals set forth at the beginning of this **Change Order No. 09** are deemed fully and finally settled and the Contractor shall in regard thereto not be entitled to anything not expressly provided for and set forth in this **Change Order No. 09**. The Owner expressly acknowledges, agrees and confirms that all claims for Late Interim Acceptance Liquidated Damages for Units 2 and 4 are deemed fully and finally settled and the Owner shall in regard thereto not be entitled to anything not expressly provided for and set forth in this **Change Order No. 09**.
15. **EXHIBIT H - CMS ENERGY CORPORATION THIRD PARTY ETHICS AND COMPLIANCE GUIDELINES (2008) (REVISION 1 - APRIL 2008)** is hereby replaced in its entirety by the attached **EXHIBIT H - CMS ENERGY 2016 THIRD PARTY CODE OF CONDUCT**. Also, in Article 12 ("ETHICS AND COMPLIANCE") of Section I - AGREEMENT of the Contract, the referenced to "CMS Energy Corporation Third-Party Ethics and Compliance Guidelines (2008) (Revision 1 -April 2008)" is revised to read "CMS ENERGY 2016 THIRD PARTY CODE OF CONDUCT".
16. Clause 40("Personnel Risk Assessment for Unescorted Physical Access or Cyber Access") of **EXHIBIT K - JOBSITE CONDITIONS** to the Contract is hereby revised to read, in its entirety, as follows:

"40. PERSONNEL RISK ASSESSMENT FOR UNESCORTED PHYSICAL ACCESS OR CYBER ACCESS

SECTION IV
CONTRACT PRICE
(Revision 1)

1. CONTRACT PRICING

- A. Subject only to the provisions of **Part 2 ("BONUS PAYMENTS AND LIQUIDATED DAMAGES")**, below, of this **SECTION IV - CONTRACT PRICE (Revision 1)**, the entire Work under this Contract shall be paid for by the Owner at the total, all-inclusive, firm, fixed price, not subject to any adjustment (except only as may be expressly otherwise provided in future Change Order(s) if any that may be duly agreed upon and executed by the Owner and the Contractor after the date of **Change Order No. 09**), of Five Hundred Fifty Eight Million Eight Hundred Seventy Six Thousand Six Hundred Eighty One Dollars (\$558,876,681.00) (the "**Overall Total Fixed Price**"). Said **Overall Total Fixed Price** of \$558,876,681.00 is broken down by Unit as set forth below (the portion of said **Overall Total Fixed Price** that, in said breakdown set forth below, is allocated to each Unit being referred to herein as a "**Unit Total Fixed Price**").

Said **Overall Total Fixed Price** of \$558,876,681.00, and each of the **Unit Total Fixed Price** amounts into which same is broken down as set forth below, is fully inclusive of both:

- all Work (and any other obligations) performed under this Contract (including all Change Orders to the Contract) prior to the date of **Change Order No. 09** (being the Change Order by which this **SECTION IV (Revision 1)** was made part of the Contract), back to the inception of this Contract; and
- except only as may be expressly otherwise provided in further Change Order(s) to the Contract (if any) that may be duly agreed upon and executed by the Owner and the Contractor after the date of said **Change Order No. 09**, all Work (and other obligations) to be performed under the Contract subsequent to the date of said **Change Order No. 09** through the Final Completion and the fulfilment of all other obligations of the Contractor under the Contract.

All amounts paid by the Owner to the Contractor (or credited as having been paid by the Owner to the Contractor, see, without limitation, **Item 1(a) of Change Order No. 09**), plus the Owner's ten percent (10%) retainage in accordance with the terms of the Contract, from the inception of this Contract up to and including the date of **Change Order No. 09** shall, albeit that same were computed pursuant to the pricing provisions of the original version of **SECTION IV - CONTRACT PRICE** to the Contract, and/or, if and to the extent applicable, pursuant to the provisions of any Change Orders to the Contract that were entered into by the parties prior to the date of said **Change Order No. 09** (even if and where any such prior Change Orders provide for a different method of pricing than the original **SECTION IV - CONTRACT PRICE**), fully count toward and apply against the applicable **Unit Total Fixed Price** set forth below.

The above-mentioned per-Unit breakdown is as follows:

- (a) **UNIT 2:** In respect to **Unit 2**, the **Unit Total Fixed Price** is \$122,650,047.00.
- (b) **UNIT 4:** In respect to **Unit 4**, the **Unit Total Fixed Price** is \$82,572,299.00.
- (c) **UNIT 5:** In respect to **Unit 5**, the **Unit Total Fixed Price** is \$85,142,949.00.
- (d) **UNIT 6:** In respect to **Unit 6**, the **Unit Total Fixed Price** is \$87,348,587.00.
- (e) **UNIT 3:** In respect to **Unit 3**, the **Unit Total Fixed Price** is \$88,732,454.00.

(f) **UNIT 1:** In respect to **Unit 1**, the **Unit Total Fixed Price** is \$92,430,345.00.

Note: The above listed Unit numbers are the Owner's designated Unit identification numbers. The order in which said Unit identification numbers are listed above reflects the intended sequence of the Work.

B. RATES AND CHARGES FOR ADDITIONAL WORK

In the event that the Owner, in accordance with **Article 3 ("CHANGES IN THE WORK AND EXTRA WORK")** of **SECTION I - AGREEMENT** of the Contract, makes additions to or other alterations or changes in the Work (herein all referred to as "**Additional Work**"), the parties shall attempt to agree on a fixed price for such Additional Work, which fixed price will be added to the applicable **Unit Total Fixed Price(s)** (and, correspondingly to the **Overall Total Fixed Price**) as set forth in the applicable Change Order (and, if applicable, the associated PCNs) as referred to in said **Article 3 ("CHANGES IN THE WORK AND EXTRA WORK")** for the Additional Work.

If the parties cannot agree on such a fixed price for the Additional Work but the Owner desires the Contractor to proceed with such Additional Work, then the following rates and charges shall be used to calculate the amount to be paid by the Owner to the Contractor for such **Additional Work**, and shall constitute the full, entire and complete compensation to be paid by the Owner to the Contractor for such **Additional Work** (and the Contractor shall in no event claim any other or additional compensation).

- (i) For actual hours worked at the Jobsite by the Contractor's craft labor (at the level of General Foreman and below) on said **Additional Work**, the Owner will pay the Contractor for the Contractor's actual cost for such craft labor as determined in accordance with the then-current union labor billing rates and associated insurance and payroll/employment tax expense (such applicable then-current union labor billing rates and associated insurance and payroll/employment tax expense to be confirmed by both parties in writing).

To cover all costs of the Contractor for field supervision, temporary construction materials, welding rod and any and all other consumables, construction equipment and attachments to construction equipment (other than as expressly set forth in item "(iv)" below), insurance, construction engineering, tools, trailers, break shacks, office equipment, portable or temporary restrooms, small tools, travel and living expenses (whether internally handled by the Contractor as "per diems" or otherwise), all Jobsite and all home office overheads, and any and all other costs not expressly addressed in the immediately preceding subparagraph of this item "(i)" or in items "(ii)", "(iii)", "(iv)" and "(v)" below, associated with the **Additional Work**, the Owner will pay the Contractor an amount equal to a twenty five percent (25%) mark-up of the amounts charged under the immediately preceding subparagraph of this item "(i)".

- (ii) The Contractor shall be compensated for the actual direct cost (net of any discounts or rebates) of materials (including any applicable freight and duties) that are furnished and permanently installed by the Contractor at the Jobsite directly in the performance of the **Additional Work**, plus a fifteen percent (15%) markup. In no event shall consumables be charged under this item "(ii)", it being expressly understood that all consumables shall be deemed included in the markup specified in the last paragraph of the preceding item "(i)" on the compensation paid to the Contractor for labor under the preceding item "(i)".

- (iii) If any of the **Additional Work** is subcontracted, the Contractor shall be compensated for the actual direct cost of such subcontracted Work plus a fifteen percent (15%) markup; provided, that such subcontracting must be expressly approved by the Owner in writing in advance in accordance with **Article GC4 ("SUBCONTRACTING")** of **SECTION II - AGREEMENT** of the Contract. It is expressly understood that the foregoing is the Contractor's total and exclusive compensation for the subcontracted Additional Work, and no amounts under items "(i)" or "(ii)" above or item "(iv)" below shall apply in connection with the subcontracted Additional Work.

Notwithstanding the foregoing, it is expressly understood that any Additional Work that is subcontracted to any North American-based affiliate of the Contractor shall not, unless otherwise mutually agreed in writing by the parties, be charged as subcontracted work under the preceding provisions of this item "(iii)", rather, such work shall be charged as if it was performed by the Contractor directly, in accordance with items "(i)" and "(ii)" above and item "(iv)" below (including any markups specified in those items, but in no event with any other or additional markup). As used herein, an "affiliate" of the Contractor means any individual, partnership, corporation or other entity that, directly or indirectly, controls, is controlled by, or is under common control with the Contractor.

- (iv) The Contractor shall be compensated for the use of construction equipment having an initial purchase cost greater than \$2,500.00 that is directly used at the Jobsite in the performance of the **Additional Work** at the rates set forth in an Equipment Rate Schedule to be mutually agreed upon by the parties in writing. Unless otherwise stated in such mutually-agreed-upon Equipment Rate Schedule, said rates shall be understood to be inclusive of all necessary fuel, lubricants, maintenance, repairs and other costs and expenses of same, excepting only the equipment operator who (unless stated in such mutually-agreed-upon Equipment Rate Schedule to be included in the equipment rate itself) will be charged under Item "(i)" above. To the extent that such mutually-agreed-upon Equipment Rate Schedule states, for a particular type of equipment, a different rate amount for different durations of use (e.g., hourly, daily, weekly or monthly), it is understood that all charges to the Owner for that particular item of equipment listed shall be based on the rate -- hourly, daily, weekly or monthly, as set forth in said mutually-agreed-upon Equipment Rate Schedule -- that results in the lowest charges to the Owner.

In the case of any construction equipment having an initial purchase cost greater than \$2,500.00 that is directly used in the performance of the **Additional Work** but which is not listed on the Equipment Rate Schedule mutually agreed to in writing by the parties, the Contractor shall be paid 90% of the rate established in the latest edition of the Rental Rate Blue Book (published by Equipment Watch, a subsidiary of PRIMEDIA Business Directories & Books Group) or 90% of the rates established in the latest edition of A.E.D.; provided, however, that the use of any and all such equipment must be expressly approved in writing by the Owner in advance. [Note: In the event that the parties fail to mutually agree in writing on any such Equipment Rate Schedule at all, then the preceding provisions of this subparagraph shall be used for all construction equipment having an initial purchase cost greater than \$2,500.00 that is directly used in the performance of the **Additional Work**.]

In no event shall any charge be made to the Owner for any small equipment or tools -- hereby defined any individual item of equipment or tool having an initial purchase cost of \$2,500.00 or less -- same being deemed included in the in the

markup specified in last paragraph of item "(i)" above on the compensation paid to the Contractor for labor under item "(i)" above.

Notwithstanding any of the above, in the case of any construction equipment that would be chargeable under the preceding provisions of this item "(iv)", no charge shall be made to the Owner for the use of same in the performance of the **Additional Work** if and to the extent such equipment is already (or is already scheduled to be) at the Jobsite or at a Contractor laydown or storage location in the vicinity of the Jobsite at the time the **Additional Work** is to be performed. In the case of any such equipment that, solely by reason of it being needed at the Jobsite for use in the Additional Work, must be brought to the Jobsite (or Contractor laydown or storage area in the vicinity of the Jobsite) earlier than it would otherwise have been brought for purposes of any other Work under this Contract, or must be retained at the Jobsite (or Contractor laydown or storage area in the vicinity of the Jobsite) longer than it otherwise would have been retained for any other Work under this Contract, the charges for such construction equipment under this item "(iv)" shall be limited to the additional period in question at the beginning or end of its use at the Jobsite.

For all **Additional Work** performed under this Contract on the rates and charges basis set-forth above in this **Part 1.B.**, the Contractor shall furnish to the Owner separate daily time and material sheets showing the name and number of each person (and, if and wherever to be separately paid for in accordance with the preceding provisions of this **Part 1.B.**, each piece of equipment) employed thereon, with the time worked, the character of work he (or it) is doing and the labor (or, if and wherever to be separately paid for in accordance with the preceding provisions hereof, equipment) rates therefor.

In addition, if and wherever materials and/or subcontracted services are to be separately paid for on the above set-forth rates and charges basis in accordance with the preceding provisions hereof, the Contractor shall also include in said daily time and material sheets all of the materials used and/or subcontracted services performed on such Work, showing the amount and character of such materials and/or subcontracted services, from whom purchased or by whom performed, and the amounts paid or to be paid therefor. The Contractor shall also provide to the Owner with said daily time and material sheets supporting invoices for all such materials and subcontracted services.

Said daily time and material sheets shall be in a form satisfactory to the Owner, and have a unique numbering system. If required by the Owner, the Contractor shall also produce any books, vouchers, records and memoranda showing the Work and materials actually paid for and the actual prices therefor. Such daily time and material sheets and memoranda shall not be binding upon the Owner except in so far as they are fully accurate, correct and otherwise pertinent and reasonable, and if any question or dispute should arise as to the correct cost of such work or material, the determination of the Owner upon such question shall be final and conclusive. Any prior review and/or approval by the Owner of any of the Contractor's daily time and material sheets shall not preclude the Owner from requiring corrections should the Owner discover same to have been inaccurate or incorrect in any manner; and in any event nothing in this **Part 1.B.** shall be deemed in any way to limit or restrict the Owner's rights and remedies under **Article GC 20 ("AUDITING OF CONTRACTOR'S ACCOUNTS AND REFUNDS")** of **SECTION II - GENERAL CONDITIONS** of this Contract.

The Contractor shall ensure that separate tracking and record keeping is maintained adequate to keep separate, to the Owner's satisfaction, any and all **Additional Work** being performed on the basis of the rates and charges above in this **Part 1.B.** from the Work being performed at the **Unit Total Fixed Prices** (and **Overall Total Fixed Price**)

(as well as from any other work, if any, that the Contractor or any affiliate of the Contractor may concurrently be performing for the Owner under any other contracts).

The Contractor's right to receive payment for any overtime is subject to and conditional upon same having been properly approved by the Owner in accordance with the provisions of **Subarticle 15(g) of SECTION II - General Conditions** of this Contract.

The Contractor's hereinabove referred to daily time and material sheets for **Additional Work** shall be processed as follows:

- The Contractor shall use commercially reasonable efforts to provide its completed daily time and material sheets to the Owner's Construction Manager or designee within forty eight (48) hours (but in no event later than five (5) working days) of the shift end for review and approval. The Contractor shall provide copies of all supporting documentation related to subcontracts, material, equipment, etc. with each daily time and cost report. The actual Subcontractor or Supplier invoice is not required for initial reporting, but an initial estimate, proposal, etc. showing the anticipated cost shall be submitted.
- The Owner will return reviewed daily time and material sheets to the Contractor within five (5) working days of receipt.
- The Contractor shall submit approved daily time and material sheets with a summary sheet (also to be in form satisfactory to the Owner) weekly, within forty eight (48) hours of the end of the craft labor pay period.

2. **BONUS PAYMENTS AND LIQUIDATED DAMAGES**

It is understood that certain liquidated damages may be payable by the Contractor to the Owner, and/or that the Contractor may become eligible for certain bonus payments from the Owner, as follows:

A. **Bonus Payments and Liquidated Damages for Failure to Meet Performance Guaranties**

Each Unit, at the Owner's sole option, may be tested by the Owner to determine whether the Unit meets the "Guaranteed Pump-Turbine Output in Generating Mode", the "Guaranteed Weighted Average Pump-Turbine Efficiency in Generating Mode", the "Guaranteed Pumping Flow" and the "Guaranteed Weighted Average Pump-Turbine Efficiency in Pumping Mode", each as set forth and defined in PART FOUR, Section 5.5.24 of the Conformed Contract Specification (each individually sometimes referred to as a "Performance Guaranty" and collectively as "Performance Guaranties"). The testing protocols will be as set forth in PART TWO of the Conformed Contract Specification. For each Performance Guaranty that is not met, as determined by said testing, the Contractor shall, upon invoice from the Owner, pay to the Owner liquidated damages (or, in cases where a bonus is provided for below, if the Performance Guaranty is exceeded the Owner will as part of the Contractor's final invoice for the applicable Unit pay the Contractor a bonus) as follows:

- (i) **Guaranteed Pump-Turbine Output in Generating Mode:** If the applicable Unit, as determined from the Owner's testing as mentioned above, fails to achieve the Guaranteed Pump-Turbine Output in Generating Mode, then the Contractor shall pay to the Owner, as liquidated damages, the sum of Four Hundred Fifty Thousand Dollars (\$450,000.00) per megawatt shortfall (prorated as applicable) below the Guaranteed Pump-Turbine Output in Generating Mode.

(ii) **Guaranteed Weighted Average Pump-Turbine Efficiency in Generating Mode:**

- (a) **Bonus Payment** - If the applicable Unit, as determined from the Owner's testing as mentioned above, exceeds the Guaranteed Weighted Average Pump-Turbine Efficiency in Generating Mode, then the Owner will pay the Contractor a bonus in the amount of One Million Dollars (\$1,000,000.00) for each one percent (1.0%) gain above the Guaranteed Weighted Average Pump-Turbine Efficiency in Generating Mode (prorated as applicable), said bonus not to exceed a maximum of Four Million Dollars (\$4,000,000.00) per Unit.
- (b) **Liquidated Damages** - If the applicable Unit, as determined from the Owner's testing as mentioned above, falls short of the Guaranteed Weighted Average Pump-Turbine Efficiency in Generating Mode, then the Contractor shall pay to the Owner, as liquidated damages, the sum of One Million Dollars (\$1,000,000.00) for each one percent (1.0%) shortfall below the Guaranteed Weighted Average Pump-Turbine Efficiency in Generating Mode (prorated as applicable).

(iii) **Guaranteed Pumping Flow:**

- (a) **Bonus** - If the applicable Unit, as determined from the Owner's testing as mentioned above, exceeds the Guaranteed Pumping Flow, then the Owner will pay the Contractor a bonus in the amount of One Thousand Six Hundred Dollars (\$1,600.00) for each cubic foot per second gain by which the Guaranteed Pumping Flow is exceeded (prorated as applicable). Said bonus shall not exceed a maximum of One Million Dollars (\$1,000,000.00) per Unit; provided further that the Contractor understands that the Conformed Contract Specification requires that pump input power "on cam" (best efficiency gate position) shall not exceed 400 MW over the entire operating range of the applicable Unit, and, without limiting the generality of that requirement, the Contractor's entitlement to the entire bonus payment under this **Subpart 2.A.(iii)(a)** will be null and void if, at any head, the power exceeds 400 MW.
- (b) **Liquidated Damages** - If the applicable Unit, as determined from the Owner's testing as mentioned above, falls short of the Guaranteed Pumping Flow, then the Contractor shall pay to the Owner, as liquidated damages, the sum of Three Thousand Two Hundred Dollars (\$3,200.00) for each cubic foot per second of shortfall below the Guaranteed Pumping Flow (prorated as applicable).

(iv) **Guaranteed Weighted Average Pump-Turbine Efficiency in Pumping Mode:**

- (a) **Bonus Payment** - If the applicable Unit, as determined from the Owner's testing as mentioned above, exceeds the Guaranteed Weighted Average Pump-Turbine Efficiency in Pumping Mode, then the Owner will pay the Contractor a bonus in the amount of One Million Dollars (\$1,000,000.00) for each one percent (1.0%) gain above the Guaranteed Weighted Average Pump-Turbine Efficiency in Pumping Mode (prorated as applicable), said bonus not to exceed a maximum of Four Million Dollars (\$4,000,000.00) per Unit.
- (b) **Liquidated Damages** - If the applicable Unit, as determined from the Owner's testing as mentioned above, falls short of the Guaranteed

Weighted Average Pump-Turbine Efficiency in Pumping Mode, then the Contractor shall pay to the Owner, as liquidated damages, the sum of One Million Dollars (\$1,000,000.00) for each one percent (1.0%) shortfall below the Guaranteed Weighted Average Pump-Turbine Efficiency in Pumping Mode (prorated as applicable).

The liquidated damages provided for in the foregoing **Subparts 2.A.(i), 2.A.(ii)(b), 2.A.(iii)(b) and 2.A.(iv)(b)** are referred to herein as "Performance Guaranty Liquidated Damages".

It is expressly acknowledged and agreed that each of the Performance Guaranty Liquidated Damages provided for above represents a reasonable estimate of the Owner's actual damages for failure to meet the applicable Performance Guaranties (the precise computation of which damages would be impracticable or extremely difficult) and are not a penalty.

The payment by the Contractor to the Owner of Performance Guaranty Liquidated Damages under the foregoing provisions of this **Part 2.A.** is the Owner's sole and exclusive remedy for loss or damage for failure to meet the Performance Guaranties for the applicable Unit; except that failure to meet one or more Performance Guaranties for any Unit remains subject to the Owner's other rights and remedies under this Contract, including the Owner's right to terminate this Contract for Major Default as described in **Subarticle GC7(b) of SECTION II - GENERAL CONDITIONS** and to exercise the rights and remedies set forth in said **Subarticle GC7(b)** and the Owner's rights with respect to the ten percent (10%) retainage and otherwise to withhold payment as set forth in **Article 5 of SECTION 1 - AGREEMENT**.

It is hereby expressly understood and acknowledged that in respect to **Unit 2** and **Unit 4**:

- with respect to **Unit 2**, the applicable testing and all associated determinations and computations have already occurred with respect to all bonus payment and/or liquidated damage amounts under **Part 2.A.** of the original **SECTION IV - CONTRACT PRICE**, and neither any Performance Guaranty Liquidated Damages or any bonuses are owed between the parties with respect to **Unit 2**; and
- the Owner has already elected, pursuant to the provisions of the first paragraph of **Part 2.A.**, not to have Performance Guaranty testing performed on **Unit 4**, therefore, neither any Performance Guaranty Liquidated Damages or any bonuses are owed between the parties with respect to **Unit 4**. [Per the provisions of the first paragraph of this **Part 2.A.**, it is further expressly understood and acknowledged that it will be the Owner's decision as to whether or not to perform Performance Guaranty testing under this **Part 2.A.** on each of the remaining Units, and that decision will determine whether any Performance Guaranty Liquidated Damages or bonuses may potentially be owing with respect to each of the remaining Units.].

B. Liquidated Damages for Lateness

For purposes of the following provisions, "Unit Interim Acceptance Milestone Date Deadband" means a period beginning on the "Unit Interim Acceptance Target Date" for the applicable Unit as set forth in or established in accordance with the provisions of **SECTION III - DESCRIPTION OF WORK** and ending twenty (20) days after said applicable Unit Interim Acceptance Target Date.

In the event that, for a particular Unit, the date of Unit Interim Acceptance falls after the last day of the Unit Interim Acceptance Milestone Date Deadband, then the Contractor shall pay to the Owner liquidated damages of Fifty Thousand Dollars (\$50,000.00) for each day by which the date of Unit Interim Acceptance follows said last day of the Unit

Interim Acceptance Milestone Date Deadband (hereinafter referred to as "Unit Late Interim Acceptance Liquidated Damages").

The Contractor shall pay all such Unit Late Interim Acceptance Liquidated Damages to the Owner promptly upon Unit Interim Acceptance, provided that if Unit Interim Acceptance is delayed more than thirty (30) days beyond the end of the Unit Interim Acceptance Milestone Deadband the Contractor shall pay all accrued Unit Late Interim Acceptance Liquidated Damages to the Owner every thirty (30) days following the end of the Unit Interim Acceptance Milestone Deadband, and, in the case of any partial thirty (30) day period at the end of the delay, the Contractor shall pay the applicable Unit Late Interim Acceptance Liquidated Damages therefor to the Owner promptly upon Unit Interim Acceptance. Without limiting any other rights or remedies of the Owner, the Owner may, in the event of any failure of the Contractor to timely pay any Unit Late Interim Acceptance Liquidated Damages in accordance with the foregoing, withhold same (in addition to any and all other withholdings provided for in this Contract) from the Owner's payment of any invoices of the Contractor hereunder (it being expressly understood that when the Owner so withholds payment from other invoices of the Contractor hereunder to cover Unit Late Interim Acceptance Liquidated Damages owed by Contractor to the Owner, the Owner will also be deemed credited for having paid the other invoiced amounts in question).

For the avoidance of any doubt, it is expressly understood that any delays in achieving Unit Interim Acceptance for any Unit that are caused by the Owner's insistence on the Contractor properly performing all parts of the Work in accordance with the requirements of this Contract or by the Owner's assertion or exercise of any other rights of the Owner under this Contract, shall in no event be cause for the Contractor to claim entitlement to any delay of the Unit Interim Acceptance Target Date or any extension to the Unit Interim Completion Milestone Date Deadband or any additional compensation from the Owner.

Furthermore, it is agreed that any delays in achieving Unit Interim Acceptance for any Unit, up to a total of five (5) days in the case of each Unit, that are caused by and the fault of the Owner, not related to the Owner's insistence on the Contractor properly performing all parts of the Work in accordance with the requirements of this Contract or by the Owner's assertion or exercise of any other rights of the Owner under this Contract, shall in no event be cause for the Contractor to claim entitlement to any delay of the Unit Interim Acceptance Target Date or any extension to the Unit Interim Completion Milestone Date Deadband or any additional compensation from the Owner.

It is expressly acknowledged and agreed that said Unit Late Interim Acceptance Liquidated Damages represents a reasonable estimate of the Owner's actual damages for late Unit Interim Completion (the precise computation of which damages would be impracticable or extremely difficult) and are not a penalty.

The payment by the Contractor to the Owner of Unit Late Interim Acceptance Liquidated Damages under the foregoing provisions of this **Part 2.B.** is the Owner's sole and exclusive remedy for loss or damage arising from delay past the end of the applicable Unit Interim Acceptance Milestone Date Deadband in achieving Unit Interim Acceptance for the applicable Unit; except that failure to achieve Unit Interim Acceptance for any Unit by the end of the applicable Unit Interim Acceptance Milestone Date Deadband remains subject to the Owner's other rights and remedies under this Contract, including the Owner's right to terminate this Contract for Major Default as described in **Subarticle GC7(b) of SECTION II - GENERAL CONDITIONS** and to exercise the rights and remedies set forth in said **Subarticle GC7(b)** and the Owner's rights with respect to the ten percent (10%) retainage and otherwise to withhold payment as set forth in **Article 5 of SECTION 1 - AGREEMENT**.

It is hereby expressly understood and acknowledged that in respect to **Unit 2** and **Unit 4**:

- with respect to both **Unit 2** and **Unit 4**, all associated determinations and computations have already occurred with respect to all liquidated damage amounts under **Part 2.B.** of the original **SECTION IV - CONTRACT PRICE**, and the amounts so determined and computed are set forth in **Item 1** of **Change Order No. 09**; and
- regardless of any differences between the provisions of the original **SECTION IV - CONTRACT PRICE** and the provisions of this **SECTION IV - CONTRACT PRICE (Revised)**, said amounts set forth in **Item 1** of **Change Order No. 09** are definitive, final and binding.

C. Limit on Liquidated Damages

It is understood that:

- (i) With respect to each of the first three Units, the Contractor's total liability for the Performance Guaranty Liquidated Damages specified in **Part 2.A.** above is limited to a maximum of seventeen percent (17%) of the **Unit Total Fixed Price** for the applicable Unit; the Contractor's total liability for the Unit Late Interim Acceptance Liquidated Damages specified in **Part 2.B.** above is limited to a maximum of fifteen percent (15%) of the **Unit Total Fixed Price** for the applicable Unit; and the Contractor's total combined liability for the Performance Guaranty Liquidated Damages specified in **Part 2.A.** above and the Unit Late Interim Acceptance Liquidated Damages specified in **Part 2.B.** above is limited to a maximum of twenty five percent (25%) of the **Unit Total Fixed Price** for the applicable Unit.
- (ii) With respect to each of the last three Units, the Contractor's total liability for the Performance Guaranty Liquidated Damages specified in **Part 2.A.** above is limited to a maximum of ten percent (10%) of the **Unit Total Fixed Price** for the applicable Unit; the Contractor's total liability for the Unit Late Interim Acceptance Liquidated Damages specified in **Part 2.B.** above is limited to a maximum of ten percent (10%) of the **Unit Total Fixed Price** for the applicable Unit; and the Contractor's total combined liability for the Performance Guaranty Liquidated Damages specified in **Part 2.A.** above and the Unit Late Interim Acceptance Liquidated Damages specified in **Part 2.B.** above is limited to a maximum of twenty percent (20%) of the **Unit Total Fixed Price** for the applicable Unit.

These limitations on total liquidated damages do not limit the Owner's other rights and remedies under this Contract, including the Owner's right to terminate this Contract for Major Default as described in **Subarticle GC7(b)** of **SECTION II - GENERAL CONDITIONS** and to exercise the rights and remedies set forth in said **Subarticle GC7(b)** and the Owner's rights with respect to the ten percent (10%) retainage and otherwise to withhold payment as set forth in **Article 5** of **SECTION 1 - AGREEMENT**.

CONTRACT CHANGE ORDER**Date:** January 17, 2018**No. 10**

WHEREAS, CONSUMERS ENERGY COMPANY, One Energy Plaza, Jackson, MI 49201 ("Consumers"), **DTE ELECTRIC COMPANY** (formerly known as The Detroit Edison Company), One Energy Plaza, Detroit, MI 48226 ("Edison") (Consumers and Edison being collectively called the "**Owner**") and **TOSHIBA AMERICA ENERGY SYSTEMS CORPORATION**, 3545 Whitehall Park Drive, Suite 500, Charlotte, NC 28273 (assignee of Toshiba International Corporation) (the "**Contractor**"), are parties to the "Ludington Pumped Storage Plant Engineering, Procurement, & Construction Contract for Units 1 through 6 Turbine Generator Overhaul" dated **October 15, 2010**, as heretofore amended by **Change Orders Nos. 01** through **09** thereto (said contract, as so heretofore amended, the "**Contract**"); and

WHEREAS, the parties once again desire to amend certain provisions of the Contract, as more particularly set forth herein.

NOW THEREFORE, for and in consideration of the foregoing recitals and the mutual agreements set forth herein below, the parties hereby mutually agree as follows:

1. **Payment of Late Interim Acceptance Liquidated Damages.** With respect to "Unit Late Interim Acceptance Liquidated Damages" for Unit #5 pursuant to **Subpart 2.B.(ii)** of the existing **SECTION IV - CONTRACT PRICE** of the Contract, the Contractor and Owner agree that payment to the Owner of the sum of One Million Nine Hundred Thousand Dollars (\$1,900,000.00) has been made prior to the execution of this **Change Order No. 10** and that the Contractor has satisfied its obligation in full with respect to "Unit Late Interim Acceptance Liquidated Damages" for Unit #5.
2. **Overhaul Sequence and Schedule.** On Page 1 of **SECTION III - DESCRIPTION OF WORK** of the Contract, that portion of the table showing "Milestones" and "Outage Sequence" that relates to the "Fifth" and "Sixth" sequenced Units (those Units being understood to be the Owner's Ludington Pumped Storage (LPS) Plant Unit Nos. 3 and 1, respectively), will now reverse the order of these units to reflect Unit No. 1 as the fifth outage sequence and Unit No. 3 as the sixth outage sequence as follows:

Milestone	Outage Sequence			
	Third LPS Unit No. 5	Fourth LPS Unit No. 6	Fifth LPS Unit No. 1	Sixth LPS Unit No. 3

It is understood that by mutual agreement there is certain Work that the Contractor needs to perform to achieve Unit Final Acceptance on Units Nos. 2 and 4 that was not performed during the applicable original Unit outages and will require additional Unit outages for its performance. The Owner presently anticipates that such additional Unit outage for Unit No. 2 will occur in the Fall of 2018 and that such additional Unit outage for Unit No. 4 will occur in the Fall of 2019.

3. **Description of Work.** The Work under the Contract, as set forth in **SECTION III - DESCRIPTION OF WORK** and in the Conformed Contract Specification and in all applicable Drawings and Specifications and in any other applicable provisions of the Contract (whether the

original Contract or any prior Change Orders), is hereby changed, revised, added-to and/or clarified as follows:

- (a) the changes, revisions, additions and/or clarifications in the Work that are set forth and described in the following listed Project Change Notices ("PCNs") shall be considered to be part of the Work under **SECTION III - DESCRIPTION OF WORK:**

PCN No.	Summary Description	Price
Note	The PCN reference numbers are based on PCO (Potential Change Order) documentation approved and maintained in the Unifier system	
004	Furnish and install shaft seal water filter housing blowdown piping modifications – Total cost of all units applied to 4 th unit (Unit #6)	\$8,064.00
005	Furnish a spare servomotor rod-eye for refurbishment risk mitigation – 5 th unit (Unit #1)	\$15,468.00
006	Furnish a spare servomotor cylinder rod for refurbishment risk mitigation – 5 th unit (Unit #1)	\$23,592.00
007	Furnish and install replacement upper guide bearing oil cooling water piping – 3 rd unit (Unit #5)	\$14,803.00
010	Furnish all labor and materials to identify and repair the draft tube embedded piping leak – 4 th unit (Unit #6)	\$236,433.00
011	Furnish and install replacement servomotor rod lock nuts – 4 th unit (Unit #6)	\$19,320.00
012	Provide labor and materials to repair stator pedestal cracks – 4 th unit (Unit #6)	\$22,948.00
014	Furnish a replacement liquid rheostat tank – 4 th unit (Unit #6)	\$96,565.00
015	Provide all labor and materials to repair and restore the liquid rheostat heat exchanger – 4 th unit (Unit #6)	\$14,333.00
016	Furnish all required replacement liquid rheostat balance of equipment – 4 th unit (Unit #6)	\$52,746.00
017	Furnish replacement lower bearing bracket (LBB) oil cooling water piping – 4 th unit (Unit #6)	\$59,815.00
018	Furnish replacement lower bearing bracket (LBB) oil cooling water piping – 5 th unit (Unit #1)	\$62,778.00
019	Furnish replacement lower bearing bracket (LBB) oil cooling water piping – 6 th unit (Unit #3)	\$64,672.00
020	Delete from the scope of Work the requirement to refurbish of a spare set of wicket gates and arms – 6 th unit (Unit #3)	(\$621,000.00)
022	Furnish a replacement liquid rheostat tank – 5 th unit (Unit #1)	\$96,565.00
024	Provide all labor, materials and equipment to perform the pony motor stator slot repacking – 4 th unit (Unit #6)	\$15,548.00
025	Provide all labor and materials to restore the draft tube circularity and concentricity to within CEATI tolerance - 4 th unit (Unit #6)	\$14,120.00
027	Provide all labor and material to repair stay flange cracks – 4 th unit (Unit #6)	\$10,976.00
028	Furnish one set of spare intermediate and lower wicket gate bushing sleeves – 4 th unit (Unit #6)	\$59,753.00

029	Furnish and install cooling water back-flush piping – 1 st unit (Unit #2)	\$34,613.00
033	Furnish and install Iso Phase Bus braid boots – 4 th unit (Unit #6)	\$11,768.00
	Total Price	\$313,880.00

Any and all changes to the Contractor's compensation and/or schedule for completing the Work that are associated with the above-listed PCNs have been fully and finally addressed by, and incorporated into, the revisions to the Contract Price and Contract Schedule hereinafter set forth in this **Change Order No. 10**.

- (b) the changes, revisions, additions and/or clarifications in the Work that are set forth and described in the above-listed PCNs by mutual agreement have resulted in a total extension of time of four (4) days for the purpose of calculating schedule liquidated damages for the 4th unit overhaul (Unit #6) as provided under SECTION IV Part 4.2B of the Contract.
- (c) furthermore, as a result of the changes, revisions, additions and/or clarifications in the Work that are set forth and described in the above-listed PCNs, it is understood and agreed that the Contract Price as set forth in **SECTION IV – CONTRACT PRICE** in **Change Order No. 09** shall be increased by \$313,880.00 from the current amount of \$558,876,681.00 to a new amount of \$559,190,561.00 as set forth in **SECTION IV - CONTRACT PRICE (Revision 2)** which is attached to this **Change Order No. 10**.

4. **Contract Price.** Paragraph 1.A. of SECTION IV – CONTRACT PRICE (Revision 1), which currently reads as follows:

“1. CONTRACT PRICING

- A. Subject only to the provisions of **Part 2 ("BONUS PAYMENTS AND LIQUIDATED DAMAGES")**, below, of this **SECTION IV - CONTRACT PRICE (Revision 1)**, the entire Work under this Contract shall be paid for by the Owner at the total, all-inclusive, firm, fixed price, not subject to any adjustment (except only as may be expressly otherwise provided in future Change Order(s) if any that may be duly agreed upon and executed by the Owner and the Contractor after the date of **Change Order No. 09**), of Five Hundred Fifty Eight Million Eight Hundred Seventy Six Thousand Six Hundred Eighty One Dollars (\$558,876,681.00) (the "**Overall Total Fixed Price**"). Said **Overall Total Fixed Price** of \$558,876,681.00 is broken down by Unit as set forth below (the portion of said **Overall Total Fixed Price** that, in said breakdown set forth below, is allocated to each Unit being referred to herein as a "**Unit Total Fixed Price**").

Said **Overall Total Fixed Price** of \$558,876,681.00, and each of the **Unit Total Fixed Price** amounts into which same is broken down as set forth below, is fully inclusive of both:

- all Work (and any other obligations) performed under this Contract (including all Change Orders to the Contract) prior to the date of **Change Order No. 09** (being the

Change Order by which this **SECTION IV (Revision 1)** was made part of the Contract), back to the inception of this Contract; and

- except only as may be expressly otherwise provided in further Change Order(s) to the Contract (if any) that may be duly agreed upon and executed by the Owner and the Contractor after the date of said **Change Order No. 09**, all Work (and other obligations) to be performed under the Contract subsequent to the date of said **Change Order No. 09** through the Final Completion and the fulfillment of all other obligations of the Contractor under the Contract.

All amounts paid by the Owner to the Contractor (or credited as having been paid by the Owner to the Contractor, see, without limitation, **Item 1(a) of Change Order No. 09**), plus the Owner's ten percent (10%) retainage in accordance with the terms of the Contract, from the inception of this Contract up to and including the date of **Change Order No. 09** shall, albeit that same were computed pursuant to the pricing provisions of the original version of **SECTION IV - CONTRACT PRICE** to the Contract, and/or, if and to the extent applicable, pursuant to the provisions of any Change Orders to the Contract that were entered into by the parties prior to the date of said **Change Order No. 09** (even if and where any such prior Change Orders provide for a different method of pricing than the original **SECTION IV - CONTRACT PRICE**), fully count toward and apply against the applicable **Unit Total Fixed Price** set forth below.

The above-mentioned per-Unit breakdown is as follows:

- (a) **UNIT 2:** In respect to **Unit 2**, the **Unit Total Fixed Price** is \$122,650,047.00.
- (b) **UNIT 4:** In respect to **Unit 4**, the **Unit Total Fixed Price** is \$82,572,299.00.
- (c) **UNIT 5:** In respect to **Unit 5**, the **Unit Total Fixed Price** is \$85,142,949.00.
- (d) **UNIT 6:** In respect to **Unit 6**, the **Unit Total Fixed Price** is \$87,348,587.00.
- (e) **UNIT 3:** In respect to **Unit 3**, the **Unit Total Fixed Price** is \$88,732,454.00.
- (f) **UNIT 1:** In respect to **Unit 1**, the **Unit Total Fixed Price** is \$92,430,345.00.

Note: The above listed Unit numbers are the Owner's designated Unit identification numbers. The order in which said Unit identification numbers are listed above reflects the intended sequence of the Work."

shall be replaced in its entirety with the following:

"1. CONTRACT PRICING

- A.** Subject only to the provisions of **Part 2 ("BONUS PAYMENTS AND LIQUIDATED DAMAGES")**, below, of this **SECTION IV - CONTRACT PRICE (Revision 1)**, the entire Work under this Contract shall be paid for by the Owner at the total, all-inclusive, firm, fixed price, not subject to any adjustment (except only as may be expressly otherwise provided in future Change Order(s) if any that may be duly agreed upon and executed by

the Owner and the Contractor after the date of **Change Order No. 10**), of Five Hundred Fifty Nine Million One Hundred Ninety Thousand Five Hundred Sixty One Dollars (\$559,190,561.00) (the "**Overall Total Fixed Price**"). Said **Overall Total Fixed Price** of \$559,190,561.00 is broken down by Unit as set forth below (the portion of said **Overall Total Fixed Price** that, in said breakdown set forth below, is allocated to each Unit being referred to herein as a "**Unit Total Fixed Price**").

Said **Overall Total Fixed Price** of \$559,190,561.00, and each of the **Unit Total Fixed Price** amounts into which same is broken down as set forth below, is fully inclusive of both:

- all Work (and any other obligations) performed under this Contract (including all Change Orders to the Contract) prior to the date of **Change Order No. 10** (being the Change Order by which this **SECTION IV (Revision 1)** was made part of the Contract), back to the inception of this Contract; and
- except only as may be expressly otherwise provided in further Change Order(s) to the Contract (if any) that may be duly agreed upon and executed by the Owner and the Contractor after the date of said **Change Order No. 10**, all Work (and other obligations) to be performed under the Contract subsequent to the date of said **Change Order No. 10** through the Final Completion and the fulfillment of all other obligations of the Contractor under the Contract.

All amounts paid by the Owner to the Contractor (or credited as having been paid by the Owner to the Contractor, see, without limitation, **Item 1(a)** of **Change Order No. 09**), plus the Owner's ten percent (10%) retainage in accordance with the terms of the Contract, from the inception of this Contract up to and including the date of **Change Order No. 10** shall, albeit that same were computed pursuant to the pricing provisions of the original version of **SECTION IV - CONTRACT PRICE** to the Contract, and/or, if and to the extent applicable, pursuant to the provisions of any Change Orders to the Contract that were entered into by the parties prior to the date of said **Change Order No. 10** (even if and where any such prior Change Orders provide for a different method of pricing than the original **SECTION IV - CONTRACT PRICE**), fully count toward and apply against the applicable **Unit Total Fixed Price** set forth below.

The above-mentioned per-Unit breakdown is as follows:

- (a) **UNIT 2:** In respect to **Unit 2**, the **Unit Total Fixed Price** is \$122,684,660.00.
- (b) **UNIT 4:** In respect to **Unit 4**, the **Unit Total Fixed Price** is \$82,572,299.00.
- (c) **UNIT 5:** In respect to **Unit 5**, the **Unit Total Fixed Price** is \$85,157,752.00.
- (d) **UNIT 6:** In respect to **Unit 6**, the **Unit Total Fixed Price** is \$87,970,976.00.
- (e) **UNIT 1:** In respect to **Unit 1**, the **Unit Total Fixed Price** is \$88,930,857.00.
- (f) **UNIT 3:** In respect to **Unit 3**, the **Unit Total Fixed Price** is \$91,874,017.00.

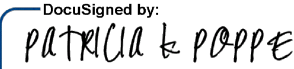
Note: The above listed Unit numbers are the Owner's designated Unit identification numbers. The order in which said Unit identification numbers are listed above reflects the intended sequence of the Work."

All other remaining provisions of SECTION IV – CONTRACT PRICE (Revision 1) as revised in **Change Order No. 9** shall remain unchanged.

5. **Termination Schedule.** The first paragraph and the table in the existing **EXHIBIT J - TERMINATION SCHEDULE (Revision 1)** to the Contract as updated in **Change Order No. 9** is hereby replaced by **EXHIBIT J - TERMINATION SCHEDULE (Revision 2)** which is attached to this **Change Order No. 10**; and all references to **EXHIBIT J** in the Contract shall be understood to refer to **EXHIBIT J - TERMINATION SCHEDULE (Revision 2)**.

In all other respects, the terms and conditions of the Contract remain effective and unchanged. No claim for extra work or additions shall be valid in the absence of an order signed by both parties.

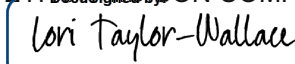
CONSUMERS ENERGY COMPANY

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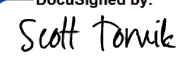
Title: President and CEO

DTE ELECTRIC COMPANY (formerly known as
THE DETROIT EDISON COMPANY)

By: 
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Name: Lori Taylor-Wallace

Title: Senior Manager Supply Chain

Accepted:
TOSHIBA AMERICA ENERGY SYSTEMS
CORPORATION (assignee of Toshiba
International Corporation)

By: 
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Name: Scott Torvik

Title: VP - Hydro Business